Appendix D
Section 106 of NHPA

Minor Projects PA Project Submittal and Assessment Form

SECTION 1

Submittal of this form is only required for projects where Category B applies. Projects qualifying under Category A do not require submittal of this form. SECTION 2 (for Conditions of Category B.1 for curb/sidewalk) or SECTION 3 (for Conditions of Category B.9 for drainage structures) may be required as determined by INDOT-Cultural Resources Office (INDOT-CRO) review. INDOT-CRO will notify applicant if the Minor Projects PA does not apply.

Part I: Project Information-Completed by Applicant (Consultant/PM/Project Sponsor/INDOT District Staff)*

**A qualified professional historian (QP) is not required to complete Part I INDOT-Cultural Resources Office (INDOT-CRO) staff will be responsible for completion of Part II.*

Original Submission Date: 11/10/2023 **Amended Submission Date*:**

**Consult with INDOT-CRO to determine whether an amendment is required. For revisions/updates to original form, please detail in applicable sections below. Please use red font to distinguish the revisions/updates.*

Submitted By (Provide Name and Firm/Organization): Brigitte Moneymaker, Kaskaskia Engineering Group, LLC

Project Designation Number: 2002071

Route Number: State Road (SR) 140

Feature crossed (if applicable): Big Blue River

City/Township: City of Knightstown/Wayne Township (Henry) and Ripley Township (Rush)

County: Henry and Rush Counties

Project Description:*

This project is located on State Route (SR) 140 over Big Blue River, 0.68 mile south of US 40 in Rush County, Indiana. The proposed project is anticipated to include a total bridge replacement. In addition to the structure replacement activities, the project will include reconstruction of the approach roadway, roadside ditch work, grading, revetment riprap turnouts, and replacement of the guardrails.

The new bridge will be similar in size to the existing structure – 241.6-foot continuous steel beam with reinforced concrete slab end spans, a 39-foot out-to-out width, and a clear roadway width of 36'. The new structure (Str # 140-70-10811) will be a three-span continuous composite prestressed concrete bulb-tee beam structure with an out-to-out width of 42.4', a 25-degree (left) skew, and a clear roadway width of 39.4'. The proposed structure cross section will include two 12' travel lanes and 7.8' shoulders. The new structure will be moved slightly north to better align with the river. The piers will likely either be drilled shafts or spread footings on piles.

The existing approach roadway consists of two 12' travel lanes with 3' paved shoulders and 8' useable shoulders overall. The reconstructed approach will include two 12' travel lanes with 6' paved shoulders and 8' usable shoulders. The MOT for this project will include phased construction.

If the project includes any curb, curb ramp, or sidewalk work, please specify the location(s) of such work: N/A

For bridge or small structure projects, please list feature crossed, structure number, NBI number, and structure type: Big Blue River, Str. #140-70-06039 B/ NBI #026970, steel continuous stringer/multibeam bridge with concrete precast panels

For bridge projects, is the bridge included in INDOT's Historic Bridge Inventory (https://www.in.gov/indot/2531.htm)?

☐ **Yes** ☒ **No**

If yes, did the inventory determine the bridge eligible for or listed in the National Register of Historic Places? Please provide page # of entry in Historic Bridge Inventory.

☐ **Yes** ☐ **No**

Inventory Page #_____

Will there be right-of-way acquisition as part of this project?

☒ **Yes** ☐ **No**

If yes was checked above, please check all that apply:

☒ **Permanent** ☐ **Temporary** ☐ **Reacquisition**

If applicable, identify right-of-way acquisition locations in text below and in attached mapping. Please specify how much (both temporary and permanent) and indicate what activities are included in the proposed right-of-way: The project includes the acquisition of 1.15 acres of permanent right-of-way.

Location	**Scope**	**Total (acre)**
Permanent		
NW Quadrant	Structure replacement, sideslope correction & reshape ditches, place riprap around spill slopes, channel clearing for new bridge, regrading around CR 1200N	0.38
NE Quadrant	Structure replacement, sideslope correction & reshape ditches, place riprap around spill slopes, channel clearing for new bridge	0.20
SE Quadrant	Structure replacement, sideslope correction & reshape ditches, place riprap around spill slopes	0.22
SW Quadrant	Structure replacement, sideslope correction & reshape ditches, place riprap around spill slopes	0.35
		Total 1.15 acres

Is there *any* potential for additional temporary right-of-way to be needed later for purposes such as access, staging, etc.?

☐ **Yes** ☒ **No**

Archaeology (check one):

☐ **All proposed activities are presumed to occur in previously disturbed soils***

**INDOT-CRO will notify you if project area incudes undisturbed soils and requires an archaeological reconnaissance.*

☒ **Project takes place in undisturbed soils and the archaeology report is included in submission or will be forthcoming***

** If an archaeology report is required, the Minor Projects PA Form will not be finalized until the report is reviewed and approved by INDOT-CRO. For INDOT-sponsored projects, INDOT-CRO may be able to complete the archaeological investigation. If you would like to request that INDOT-CRO complete an archaeological investigation, please contact the INDOT-CRO archaeology team lead. See CRM Pt. 1 Ch. 3 for current contact information.*

Please specify all applicable categories and condition(s) (highlight applicable conditions in yellow)*:

**Include full category text, including any conditions. INDOT-CRO will finalize categories upon their review.*

B-12. Replacement, widening, or raising the elevation of the superstructure on existing bridges, and bridge replacement projects (when both the superstructure and substructure are removed), under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)

One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*

ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

The conditions listed below must be met ***(BOTH Condition i and Condition ii must be satisfied)***

i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*

ii. With regard to the subject bridge, at least one of the conditions listed below is satisfied *(AT LEAST one of the conditions a, b or c, must be fulfilled)*:

a. The latest Historic Bridge Inventory identified the bridge as non-historic (see http://www.in.gov/indot/2531.htm);

b. The bridge was built after 1945, and is a common type as defined in Section V. of the *Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges* issued by the Advisory Council on Historic Preservation on November 2, 2012 for so long as that Program Comment remains in effect AND the considerations listed in Section IV of the Program Comment do not apply;

c. The bridge is part of the Interstate system and was determined not eligible for the National Register under the Section 106 Exemption Regarding Effects to the Interstate Highway System adopted by the Advisory Council on Historic Preservation on March 10, 2005, for so long as that Exemption remains in effect.

Check ☐ if SECTION 2: Minor Projects PA Category B-1, Condition B-ii Submission is included.
Check ☐ if SECTION 3: Minor Projects PA Category B-9, Condition B-i-c-2 or B-ii-b-3 Submission is included.

Part II: Completed by INDOT-CRO

Amendments will be shown in red font.

Information reviewed (please check all that apply):

General project location map ☒ USGS map ☒ Aerial photograph ☒ Soil survey data ☒

General project area photos ☒ Archaeology Reports ☒ Historic Property Reports ☐

Indiana Historic Buildings, Bridges, and Cemeteries Map/Interim Report ☒

Bridge inspection information/BIAS ☒ Historic Bridge Inventory Database ☒

SHAARD ☒ SHAARD GIS ☒ Streetview Imagery ☒ County GIS Data/Property Cards ☒

Other (please specify):

Walton, David P.
2024 A Phase Ia Archaeological Reconnaissance Survey for a Bridge Project on SR 140 over Big Blue River Located 0.68 Miles South of US 40 in Knightstown, Rush and Henry Counties, Indiana (INDOT Des. No. 2002071). Indiana Department of Transportation, Indianapolis. Document on file at INDOT-CRO.

Are there any commitments associated with this project? If yes, please explain and include in the Additional Comments Section below. yes ☐ no ☒

Does the project result in a de minimis impact to a Section 4(f) protected historic resource? If yes, please explain in the Additional Comments Section below. yes ☐ no ☒

Additional Comments:

Above-ground Resources

An INDOT-Cultural Resources Office (CRO) historian who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 first performed a desktop review, checking the Indiana Register of Historic Sites and Structures (State Register) and National Register of Historic Places (National Register) lists for Henry and Rush Counties. One listed resource is present within 0.25 mile of the project area, a distance that serves as an adequate area of potential effects given the project scope and terrain.

- NR-0795, Knightstown Historic District, c. 1830-1936, Criteria A + C

The National Register & IHSSI information for Henry and Rush Counties is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The *Henry County Interim Report* (1993; Wayne Township, Knightstown Historic District) and the *Rush County Interim Report* (1988; Ripley Township) of the Indiana Historic Sites and Structures Inventory (IHSSI) were also consulted. The SHAARD information was checked against the Interim Report hard copy maps. The IHBBCM contains the most up to date IHSSI information. Two IHSSI documented properties rated above "Contributing" are located within 0.25 mile of the project area.

- IHSSI# 065-319-66[001-747], Knightstown Historic District, c. 1830-1936, Queen Anne, Italianate, Gothic Revival, Bungalow/Craftsman, Greek Revival, Arts and Crafts, Second Empire, Neoclassical, Stick/Eastlake, Federal, Colonial Revival, Georgian, Romanesque, Shingle Style
- IHSSI# 065-319-65048, C.D. Morgan House, 1867-1872, Second Empire, rated "Outstanding"

According to the IHSSI rating system, generally properties rated "Contributing" do not possess the level of historical or architectural significance necessary to be considered individually National Register eligible, although they would contribute to a historic district. If they retain material integrity, properties rated "Notable" might possess the necessary level of significance after further research. Properties rated "Outstanding" usually possess the necessary level of significance to be considered National Register eligible if they retain material integrity. Historic districts identified in the IHSSI are usually considered eligible for the National Register.

The INDOT-CRO historian reviewed structures adjacent to the project area utilizing online aerial, street-view photography, and the Henry and Rush County GIS websites. The project area is located in a rural setting with a thick line of trees along most of the eastern and western project limits. Due to the vegetation and topography of the area, only structures located immediately adjacent to the project area were reviewed. The immediately adjacent building stock consists of late nineteenth to early twenty-first century residential and industrial buildings. None appear to possess the age and significance and/or integrity to be considered National Register-eligible.

The most recent inspection report (J. F. Mickler; 11/18/2022) from the Bridge Inspection Application System (BIAS) was referenced to review the structure. The subject structure (INDOT Bridge No. 140-70-06039 B; NBI No. 026970) carries SR 140 over the Big Blue River. The bridge is a 3-span steel continuous multi-beam structure with concrete pre-cast panels and was constructed in 1902. It was reconstructed in 1989. Structures built after 1965 were not included in the data-gathering conducted for the 2009 INDOT-sponsored Indiana Historic Bridge Inventory (HBI).

On November 12, 2012, the Advisory Council on Historic Preservation (ACHP) issued the Program Comment for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges (*Program Comment*). The *Program Comment* relieves federal agencies from the Section 106 requirement to consider the effects of undertakings on most concrete and steel bridges built after 1945. On March 19, 2013, federal agencies were approved to use the *Program Comment* for Indiana projects.

The *Program Comment* applies for Bridge No. 140-70-06039 B /NBI No. 026970 because it has not been previously listed in or determined eligible for listing in the National Register of Historic Places and is not located in or adjacent to a historic district (Section IV.A of the *Program Comment*). As an example of a steel continuous multi-beam structure, the bridge was also not one of the types exempted from the *Program Comment* (arch bridges, truss bridges, bridges with movable spans, suspension bridges, cable-stayed bridges, or covered bridges [Section IV.B]). Additionally, the bridge has not been identified as having exceptional significance for association with a person or event, being a very early or particularly important example of its type in the state or the nation, having distinctive engineering or architectural features that depart from standard designs, or displaying other elements that were engineered to respond to a unique environmental context (Section IV.C). This bridge also has not been identified as having some exceptional quality. Based on consultation between FHWA, INDOT, SHPO and interested parties, no bridges with exceptional significance were identified in Indiana (Section IV.C). Because the above criteria from the *Program Comment* have been met, no individual consideration under Section 106 is required for Bridge No. 140-70-06039 B /NBI No. 026970.

There are no above-ground concerns at this time so long as the project scope remains unchanged.

Archaeological Resources

An INDOT-CRO archaeologist who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 completed a Phase Ia field reconnaissance survey report (Walton 2024). One previously recorded site–12HN95, the historically documented location of the Euroamerican pioneer village of West Liberty comprised of approximately 16 or more houses located south/southwest of Knightstown dating to the early 19th century–overlaps with the proposed project area. There is no known map of West Liberty that remains in the historical record, and the former settlement has never been detected archaeologically.

A 1.35-hectare (3.3-acre) survey area was investigated via a combination of systematic shovel probing (n= 28), auger probing (n= 4), and visual inspection of sloped and obviously disturbed areas. No archaeological resources were documented as a result of the survey, and no additional investigation is recommended (Walton 2024).

Therefore, there are no archaeological concerns provided that the project scope and footprint do not change.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction within 100 feet of the discovery will be stopped, and INDOT-CRO and the Indiana Department of Natural Resources-Division of Historic Preservation and Archaeology (IDNR-DHPA) will be notified immediately.

INDOT-CRO staff reviewer(s): Haley Brinker and David Walton

INDOT Approval Date: 5/2/2024

Amendment Approval Date (if applicable):

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

Please attach the following to this form:

- **General Location Map.** This map should allow the INDOT-CRO reviewer to quickly locate the project.
- **Aerial photography map(s) of project area.** This map must include project limits. It may also include SHAARD data, but SHAARD data is not required.
- **If bridge or small structure project, please attach photographs of bridge or small structure.** Photographs can be found in inspection reports located in INDOT's Bridge Inspection Application System (BIAS), as well as other project documents, such as engineering assessments or mini-scopes.

Map depicting potential temporary and/or permanent right-of-way acquisitions. In the email submission to INDOT-CRO, please also include:

- **A GIS polygon shapefile or KMZ file of the project area** (shapefiles are preferred). Shapefiles should use "NAD_1983_UTM" projected coordinate system. In addition, these files should contain the following *text* attribute field: DES_NO. The project designation number should be entered in this field.
- **If the project takes place in undisturbed soils, attach the results of the archaeological investigation, if completed.** *Note: The MPPA Submission Form may be submitted before the archaeology report. INDOT-CRO staff will process the above-ground portion of the form in advance of the archaeological portion of the form. However, a completed determination form will not be returned to the applicant until after the archaeology report has been reviewed and approved by INDOT-CRO.*

INDIANA ARCHAEOLOGICAL SHORT REPORT

State Form 54566 (R3 / 3-22)

Excerpt

INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF HISTORIC PRESERVATION AND ARCHAEOLOGY
402 West Washington Street, Room W274
Indianapolis, Indiana 46204-2739
Telephone Number: (317) 232-1646
Fax Number: (317) 232-0693
E-mail: dhpa@dnr.IN.gov

Where applicable, the use of this form is recommended but not required by the Division of Historic Preservation and Archaeology (DHPA).

Name(s) of author(s)	Date *(month, day, year)*
David P. Walton	4/8/2024

Title of project
A Phase Ia Archaeological Reconnaissance Survey for a Bridge Project on SR 140 over Big Blue River Located 0.68 Miles South of US 40 in Knightstown, Rush and Henry Counties, Indiana (INDOT Des. No. 2002071)

This document is being used to report on the results of:
☐ Records check only ☒ Records check and Phase 1a archaeological reconnaissance
☐ An addendum to a previous archaeological report. *For an addendum, provide the following information.*

Name(s) of author(s) of previous report
N/A

Title of previous report
N/A

Date of previous report *(month, day, year)*	DHPA number
N/A	N/A

PROJECT OVERVIEW

Description of project

This project is located on State Route (SR) 140 over Big Blue River, 0.68 mile south of US 40 in Rush County, Indiana. The proposed project is anticipated to include a total bridge replacement. In addition to the structure replacement activities, the project will include reconstruction of the approach roadway, roadside ditch work, grading, revetment riprap turnouts, and replacement of the guardrails.

The new bridge will be similar in size to the existing structure (Str # 140-70-06039 B) comprised of a 241.6-foot continuous steel beam with reinforced concrete slab end spans, a 39 ft out-to-out width, and a clear roadway width of 36 ft. The new structure (Str # 140-70-10811) will be a three-span continuous composite prestressed concrete bulb-tee beam structure with an out-to-out width of 42.4 ft, a 25-degree (left) skew, and a clear roadway width of 39.4 ft. The proposed structure cross section will include two 12’ travel lanes and 7.8’ shoulders. The new structure will be moved slightly north to better align with the river. The piers will likely either be drilled shafts or spread footings on piles.

The existing approach roadway consists of two 12’ travel lanes with 3’ paved shoulders and 8’ useable shoulders overall. The reconstructed approach will include two 12’ travel lanes with 6’ paved shoulders and 8’ usable shoulders. The MOT for this project includes a temporary runaround structure 60’ east of the existing structure, providing two 12’ travel lanes and a 6’ shoulder for a length of approximately 1,300’.

The project includes the acquisition of 0.43 acres of temporary right-of-way and 1.15 acres of permanent right-of-way.

INDOT designation number(s)	Project number	DHPA number	DHPA plan number
2002071			

Prepared for: *(Company / Institution / Agency)*
INDOT-Greenfield District

Name of contact
Donald Mcghghy

Address *(number and street, city, state, and ZIP code)*
32 S Broadway St, Greenfield, IN 46140

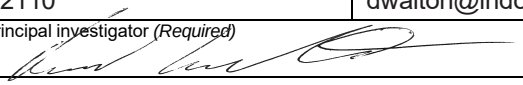
Telephone number	E-mail address
(317) 467-3920	dmcghghy@indot.in.gov

Name of principal investigator
David P. Walton

Name of company / institution
Indiana Department of Transportation

Address *(number and street, city, state, and ZIP code)*
100 North Senate Ave., N758—Cultural Resources Office, Indianapolis, IN 46204

Telephone number	E-mail address
(317) 601-2110	dwalton@indot.in.gov

Signature of principal investigator *(Required)*	Date *(month, day, year)*
	4/8/2024

Records check *(Check all that apply)*

- ☐ The project area does not have the potential to contain archaeological resources. *Provide explanation / justification.*
- ☐ There are previously recorded archaeological resources within the project area, but those resources do not warrant additional archaeological investigation. *Provide explanation / justification.*
- ☒ The project area contains previously recorded archaeological resources that warrant additional investigation and/or the project area has the potential to contain archaeological resources. *Provide explanation / justification.*
  - ☒ Based upon the records check results, a reconnaissance has been conducted.
- ☐ A cemetery is located within or adjacent to the project area.

Explanation / justification

The potential of undisturbed soils within the survey area suggested the project may impact unrecorded archaeological resources. As a result, a Phase Ia survey of the proposed project area was warranted.

Phase 1a archaeological reconnaissance *(Check all that apply)*

- ☐ No Phase 1a reconnaissance was conducted.
- ☒ Phase 1a reconnaissance located no archaeological resources.
- ☐ Previously recorded sites were in the project area.
  - ☐ Artifacts and/or features at a previously recorded site(s) within the project area were not discovered. *List the site(s) below.*
- ☐ Phase 1a reconnaissance has identified landforms conducive to buried archaeological deposits. *Describe below.*

List sites.

Describe landforms.

Number of shovel probes excavated	Number of cores / auger probes
28	4

Describe disturbances. Attach photographs documenting disturbances.

Disturbances included underground and above ground utilities; the bridge carrying SR 140 over a section of the Big Blue River; steep embankments of fill; construction debris located underneath the bridge and near its foundations; and artificial drainage features. The parcel linked to the northwest quadrant of the survey area has facilities linked to commercial/industrial development.

Actual area surveyed *(hectares)*	Actual area surveyed *(acres)*
1.35	3.3

Explain results of fieldwork.

The course of the Big Blue River bisects the survey area from northeast to southwest, and the bridge carrying SR 140 bisects the survey area from northwest to southeast. Accordingly, the survey area was divided into four quadrants defined by the intersection of SR 140 and the Big Blue River (Figures 3 and 4). A visual walkover was conducted along both sides of SR 140 to verify underground and above ground utility disturbances documented on Stage 1 construction plans (Appendix A), the bridge and its steeply sloped embankments of fill, and the course of the Big Blue River and its sloped riverbanks through the survey area.

Two transects each with six probes were placed in the northeast quadrant (Photographs 1 and 2). Two of these probes near the riverbank were extended via auger probing to assess the depth of alluvial soils and test for the presence of cultural materials within them. The negative probes within a field planted with winter wheat (0% visibility) exhibited an Ap Horizon comprised of brown (10 YR 3/2) silty clay loam from 0-25 cm bgs atop a B Horizon comprised of brown and dark yellowish brown (10 YR 4/3 and 4/4) silty clay loam from 25-50 cm bgs (Photograph 3). The fifth probe and auger extension of the western transect revealed an Ap Horizon comprised of brown (10 YR 3/2) silt loam atop a similar B Horizon comprised of brown and dark yellowish brown (10 YR 4/3 and 4/4) silty clay loam from 25-100 cm bgs with the same soil characteristics but with gravel inclusions from 100-125 cm bgs and finally a C horizon comprised of brown (10 YR 5/3) silt loam from 125-135 cm bgs (Photograph 4). Both probes along the riverbank, where animal burrows were also observed, exhibited mixed and loose soil with plastic bottle caps at 50 cm bgs (Photograph 5).

One transect of shovel probes placed in the northwest quadrant revealed disturbed contexts with loose fill and assorted rocks with multiple impasses at 20 cm bgs. These results indicate that industrial/commercial development within this parcel has effectively disturbed this entire quadrant of the survey area (Photographs 6–8). Auger probes were not extended on this portion of the riverbank due to disturbance impasses at 20 cm bgs.

One transect of three shovel probes was placed in the southwest quadrant to test for the horizontal extent of disturbance linked to the original bridge construction, much of which was visible near the bridge and its embankment of fill (Photographs 9 and 10), and one auger probe was placed along the riverbank to test for buried cultural material in alluvial soils. The middle and southernmost probes exhibited very loose, fluffy fill and modern trash (e.g., plastic bottle fragments) down to 50 cm bgs. The probe along the riverbank, which was extended via auger probing, exhibited a loose and mixed Ap and B horizon from 0-70 cm bgs atop a natural B horizon from 70 to 125 cm bgs followed by a C horizon that was excavated from 125-135 cm bgs.

In the southeast quadrant, one transect of five probes with an auger extension along the riverbank was placed along the project area's perimeter, and a second transect with two probes was placed 15 m closer to the bridge near the river (Photographs 11–13). The four probes near the riverbank exhibited only loose, sandy fill from 0-50 cm bgs. The auger probe extension did not reveal evidence of an intact B horizon; instead, the fill extended to 103 cm bgs where the C horizon was encountered. Starting at approximately 35 meters from the edge of the riverbank, two negative probes revealed undisturbed contexts with silt loam profiles match those observed in the northeast quadrant's probes. The southernmost probe exhibited disturbance with gravels that caused an impasse at 25 cm bgs.

Archaeological resources were not located during this survey, and no further investigation is recommended.

RECOMMENDATIONS

Records check *(Check all that apply)*

- ☐ No archaeological investigation is recommended before the project is allowed to proceed because the records check has determined that the project area does not have the potential to contain archaeological resources.
- ☐ A Phase 1a archaeological reconnaissance is recommended.
- ☒ Based upon the records check results, a Phase 1a archaeological reconnaissance was recommended and has been conducted.
- ☐ A cemetery development plan may be required under Indiana Code 14-21-1-26.5 because project ground disturbance will be within 100 feet of a cemetery.

Phase 1a archaeological reconnaissance *(Check all that apply)*

- ☒ It is recommended that the project be allowed to proceed as planned because the Phase 1a archaeological reconnaissance has located no archaeological sites within the project area and/or previously recorded sites that were investigated warrant no additional investigation.
- ☐ It is recommended that Phase 1c archaeological subsurface reconnaissance be conducted before the project is allowed to proceed. The Phase 1a archaeological reconnaissance has determined that the project area includes landforms which have the potential to contain buried archaeological deposits.

Other recommendations / commitments

A Phase Ic investigation is not recommended because auger probes revealed both extensive construction fill along the riverbanks and a lack of archaeological evidence such as artifacts, charcoal, or features.

Pursuant to IC-14-21-1, if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.

REQUIRED ATTACHMENTS

- ☒ Figure showing project location within Indiana
- ☒ USGS topographic map showing the project area *(1:24,000 scale)*
- ☒ Aerial photograph showing the project area, land use and survey methods
- ☒ Photographs of the project area, including, if applicable, photographs documenting disturbances
- ☒ Project plans *(if available)*

Other attachments

N/A

References cited *(See short report instructions for required references to be consulted)*

Blanch, Christina L.
2004 *Archaeological Field Reconnaissance: Reconstruction of Carthage Pike from Carthage to SR 140, Rush County, Indiana*. Prepared for Butler, Fariman & Seufert, Inc. Archaeological Resources Management Service, Ball State University, Muncie, IN.

Catt, Frank L.
1919 *Official Map of Rush County, Indiana*. Indianapolis Blue Print Company, Indianapolis, IN.

Condit, Wright, and & Hayden Real Estate
1856 *Map of the County of Rush, Indiana*. Robyn and Company, Louisville, KY.

Cottingham, W.F.
1903 *Official Map of Rush County, Indiana*. W.F. Cottingham & Co., Rushville, IN.

Harwood & Watson
1857 *Map of Henry County, Indiana*. Harwood & Watson, Newcastle, IN.

Higgins, Belden and Company
1875 *An Illustrated Historical Atlas of Henry County, Indiana*. Higgins, Belden and Company, Chicago.

Historic Aerials
2024 *Historic Aerials*. https://historicaerials.com/viewer., accessed March 15, 2024.

Appendix E
Red Flag and Hazardous Materials

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-ES
Indianapolis, Indiana 46204

PHONE: (855) 463-6848
(855) INDOT4U

Eric Holcomb, Governor
Michael Smith, Commissioner

Date: August 31, 2023

To: Site Assessment & Management (SAM)
Environmental Policy Office - Environmental Services Division (ESD)
Indiana Department of Transportation (INDOT)
100 N Senate Avenue, Room N758-ES
Indianapolis, IN 46204

From: Brigitte Moneymaker
Kaskaskia Engineering Group, LLC
323 Main Street, Suite E
Evansville, Indiana 47708

Re: RED FLAG INVESTIGATION
DES #2002071, State Project
Bridge Replacement
SR 140 over Big Blue River, 0.68 Mile South of US 40
Rush County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The proposed state project is located on SR 140 over the Big Blue River, 0.68 mile south of US 40 in the INDOT Greenfield District. The location of this state project is in Rush County, Ripley Township, Knightstown Quadrangle. INDOT has identified the need to address the deteriorated condition of the bridge. The project includes a total bridge replacement and reconstruction of the approach roadway.

Bridge Work Included in Project: Yes ☒ No ☐ Structure #(s) 140-70-06039 B / NBI 026970
If this is a bridge project, is the bridge Historical? Yes ☐ No ☒ , Select ☐ Non-Select ☐
(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).
Culvert Work Included in Project: Yes ☐ No ☒ Structure #(s) _____
Proposed right of way: Temporary ☒ # Acres 0.4 Permanent ☒ # Acres 1.6, Not Applicable ☐
Type and proposed depth of excavation: There is the potential for excavation for roadside ditch work (approximately 6 feet-below ground surface (ft-bgs) maximum), removal of existing pavement within project limits (approximately 1.5 ft-bgs), channel excavation to provide adequate waterway opening (approximately 13 ft-bgs maximum), and excavation for foundation construction (depth to be determined once type of foundation is determined).
Maintenance of traffic (MOT): Full closure with a temporary runaround to the east of SR 140.
Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐
State Project: ☒ LPA: ☐
Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Religious Facilities	**1**	Recreational Facilities	**N/A**
Airports[1]	**N/A**	Pipelines	**7**
Cemeteries	**N/A**	Railroads	**2**
Hospitals	**N/A**	Trails	**2**
Schools	**N/A**	Managed Lands	**1***

[1]In order to complete the required airport review, a review of public-use airports within 3.8 miles (20,000 feet) is required.

Explanation:

Religious Facilities: One (1) religious facility is located within the 0.5 mile search radius. Bethel Church is located approximately 0.48 mile northwest of the project area. No impact is expected.

Pipelines: Seven (7) pipeline segments are located within the 0.5 mile search radius. One (1) pipeline segment, Indiana Gas Co. Inc., crosses the project area. One (1) pipeline segment, BP Oil Pipeline Co., is located 0.03 mile south of the project area. Coordination with INDOT Utilities and Railroads should occur.

Railroads: Two (2) railroad segments are located within the 0.5 mile search radius. The nearest railroad segment, Conrail Railroad, is located approximately 0.30 mile north of the project area. No impact is expected.

Trails: Two (2) trail segments are located within the 0.5 mile search radius. The nearest trail segment, National Road Heritage Trail, is located approximately 0.30 mile north of the project area. No impact is expected.

Managed Lands*: The entrance to one (1) unmapped managed land, Knightstown Public Access Site, 1200 IN-140, is located 0.10 mile west of the project area. Coordination will occur with IDNR Division of Fish and Wildlife.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	**1**	Canal Routes - Historic	**N/A**
Karst Springs	**N/A**	NWI - Wetlands	**6**
Canal Structures – Historic	**N/A**	Lakes	**2**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**17**
NWI-Lines	**6**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**4**	Sinkhole Areas	**N/A**
Rivers and Streams	**7**	Sinking-Stream Basins	**N/A**

If unmapped water features are identified that might impact the project area, direct coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Explanation:
NWI-Points: One (1) NWI point is located within the 0.5 mile search radius. The NWI point is located approximately 0.41 mile west of the project area. No impact is expected.

NWI-Lines: Six (6) NWI line segments are located within the 0.5 mile search radius. One (1) segment is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

IDEM 303d Listed Streams and Lakes (Impaired): Four (4) 303d listed stream segments are located within the 0.5 mile search radius. The Big Blue River is located within the project area.

- Big Blue River is listed for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observer proper hygiene procedures, including regular hand washing, and limit personal exposure.
- Big Blue River is impaired for PCBs and mercury in fish tissue. Exposure to PCBs and mercury in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. Workers will be informed. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT ESD SAM will occur.

Rivers and Streams: Seven (7) rivers and stream segments are located within the 0.5 mile search radius. One (1) river and stream segment, the Big Blue River, is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

NWI-Wetlands: Six (6) NWI wetlands polygons are located within the 0.5 mile search radius. The nearest wetland polygon is located approximately 0.23 mile west of the project area. No impact is expected.

Lakes: Two (2) lake polygons are located with the 0.5 mile search radius. The nearest lake polygon is located approximately 0.29 mile northeast of the project area. No impact is expected.

Floodplain-DFIRM: Seventeen (17) floodplain-DFIRM polygons are located within the 0.5 mile search radius. The project area is located within two (2) floodplain-DFIRM polygons. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	**6**	Mineral Resources	**N/A**
Mines – Surface	**N/A**	Mines – Underground	**N/A**

Explanation:
Petroleum Wells: Six (6) petroleum wells are located within the 0.5 mile search radius. One (1) petroleum well is located within the project area. Coordination with Indiana Department of Natural Resources (IDNR) Oil and Gas Division will occur.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	**N/A**	Manufactured Gas Plant Sites	**N/A**
RCRA Generator/ TSD	**N/A**	Open Dump Waste Sites	**N/A**
RCRA Corrective Action Sites	**N/A**	Restricted Waste Sites	**N/A**
State Cleanup Sites	**N/A**	Waste Transfer Stations	**N/A**
Septage Waste Sites	**N/A**	Tire Waste Sites	**N/A**
Underground Storage Tank (UST) Sites	**2**	Confined Feeding Operations (CFO)	**N/A**
Voluntary Remediation Program	**N/A**	Brownfields	**N/A**
Construction Demolition Waste	**N/A**	Institutional Controls	**N/A**
Solid Waste Landfill	**N/A**	NPDES Facilities	**1**
Infectious/Medical Waste Sites	**N/A**	NPDES Pipe Locations	**1**
Leaking Underground Storage (LUST) Sites	**N/A**	Notice of Contamination Sites	**N/A**

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation:
Underground Storage Tank (UST) Sites: Two (2) underground storage tank (UST) sites are located within the 0.5 mile search radius. The nearest UST, Paul's Oil Company Incorporated, 8 East Grant St, Agency Interest (AI) ID# 43393, is located approximately 0.23 mile north of the project area. IDEM Notification of Underground Storage Tanks Form, dated March 21, 1988, indicates the site includes four underground storage tanks containing diesel to the north and east of the building. No impact is expected.

NPDES Facilities: One (1) NPDES facility is located within the 0.5 mile search radius. Knightstown Wastewater Treatment Plant, 4177 W 1200 N, NPDES Permit number IN0040177, is located adjacent to the west of the project area. The permit for this facility expires June 30, 2028. Coordination with the Knightstown Wastewater Treatment Plant will occur.

NPDES Pipe Locations: One (1) NPDES pipe is located within the 0.5 mile search radius. Knightstown Waste Water Treatment Plant pipe, NPDES ID# IN0040177, is located approximately 0.07 mile west of the project area. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

The Rush County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is provided at https://www.in.gov/dnr/nature-preserves/files/np_rush.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database indicated the presence of endangered bat species in or within 0.5 mile of the project area. The project is located in a forested area with adjacent agricultural land and a wastewater treatment plant to the west. The November 18, 2022 inspection report for bridge #140-70-06039 B states that no evidence of bats was seen or

heard under the bridge. Additional coordination with INDOT District Environmental personnel will be necessary, and the range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

RECOMMENDATIONS SECTION

Include recommendations from each section. If there are no recommendations, please indicate N/A:

INFRASTRUCTURE:

Pipelines: One (1) pipeline segment, Indiana Gas Co. Inc., crosses the project area. One (1) pipeline segment, BP Oil Pipeline Co., is located 0.03 mile south of the project area. Coordination with INDOT Utilities and Railroads should occur.

Managed Lands: The entrance to Knightstown Public Access Site, 1200 IN-140, is located 0.10 mile west of the project area. Coordination will occur with IDNR Division of Fish and Wildlife.

WATER RESOURCES:

A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur for the following features:

- One (1) NWI line segment is located within the project area.
- One (1) river segment, the Big Blue River, flows through the project area.
- The project area is located within two (2) floodplain-DFIRM polygon (coordination only).

IDEM 303d Listed Streams and Lakes (Impaired): The Big Blue River is located within the project area and is mapped as an IDEM 303d Listed Stream.

- Big Blue River is listed for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observer proper hygiene procedures, including regular hand washing, and limit personal exposure.
- Big Blue River is impaired for PCBs and mercury in fish tissue. Exposure to PCBs and mercury in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. Workers will be informed. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT ESD SAM will occur.

MINING/MINERAL EXPLORATION:

Petroleum Wells: One (1) petroleum well is located within the project area. Coordination with IDNR Oil and Gas Division will occur.

HAZARDOUS MATERIAL CONCERNS:

NPDES Facilities: Knightstown Waste Water Treatment Plant, 4177 W 1200 N, NPDES Permit number IN0040177, is located adjacent to the west of the project area. The permit for this facility expires June 30, 2028. Coordination with the Knightstown Waste Water Treatment Plant will occur.

ECOLOGICAL INFORMATION: Coordination with USFWS and IDNR will occur. Additional coordination with INDOT District Environmental personnel will be necessary, and the range-wide programmatic consultation for the Indiana Bat and

Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation INDOT Projects".

INDOT ESD concurrence: Peter Washburn Digitally signed by Peter Washburn Date: 2023.09.01 11:18:02 -04'00' (Signature)

Prepared by:

Brigitte Moneymaker
Environmental Scientist
Kaskaskia Engineering Group, LLC

Graphics:

A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

SITE LOCATION: YES

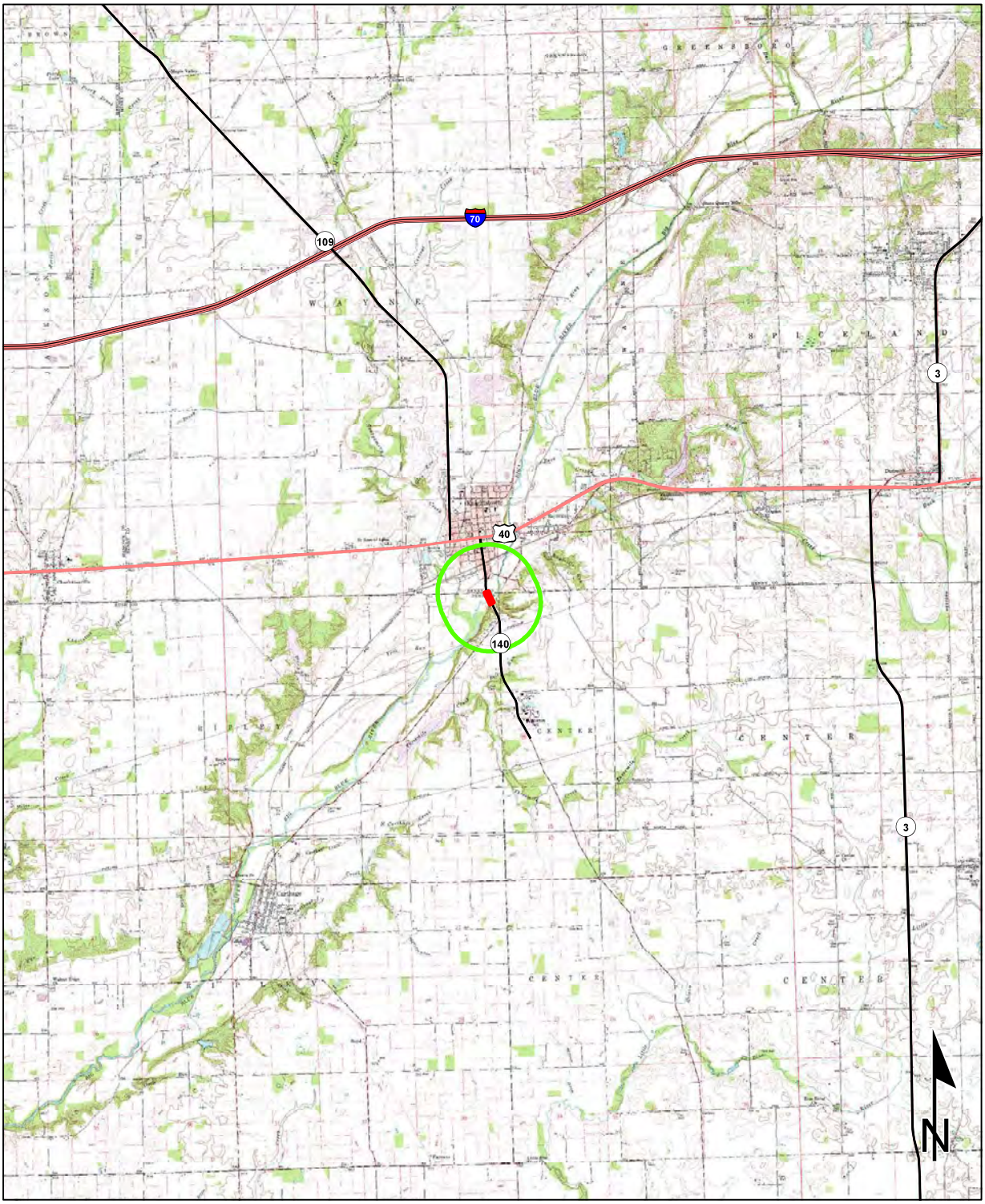
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
SR 140 over Big Blue River, 0.68 Mile South of US 40
Des. No. 2002071, Bridge Replacement
Rush County, Indiana



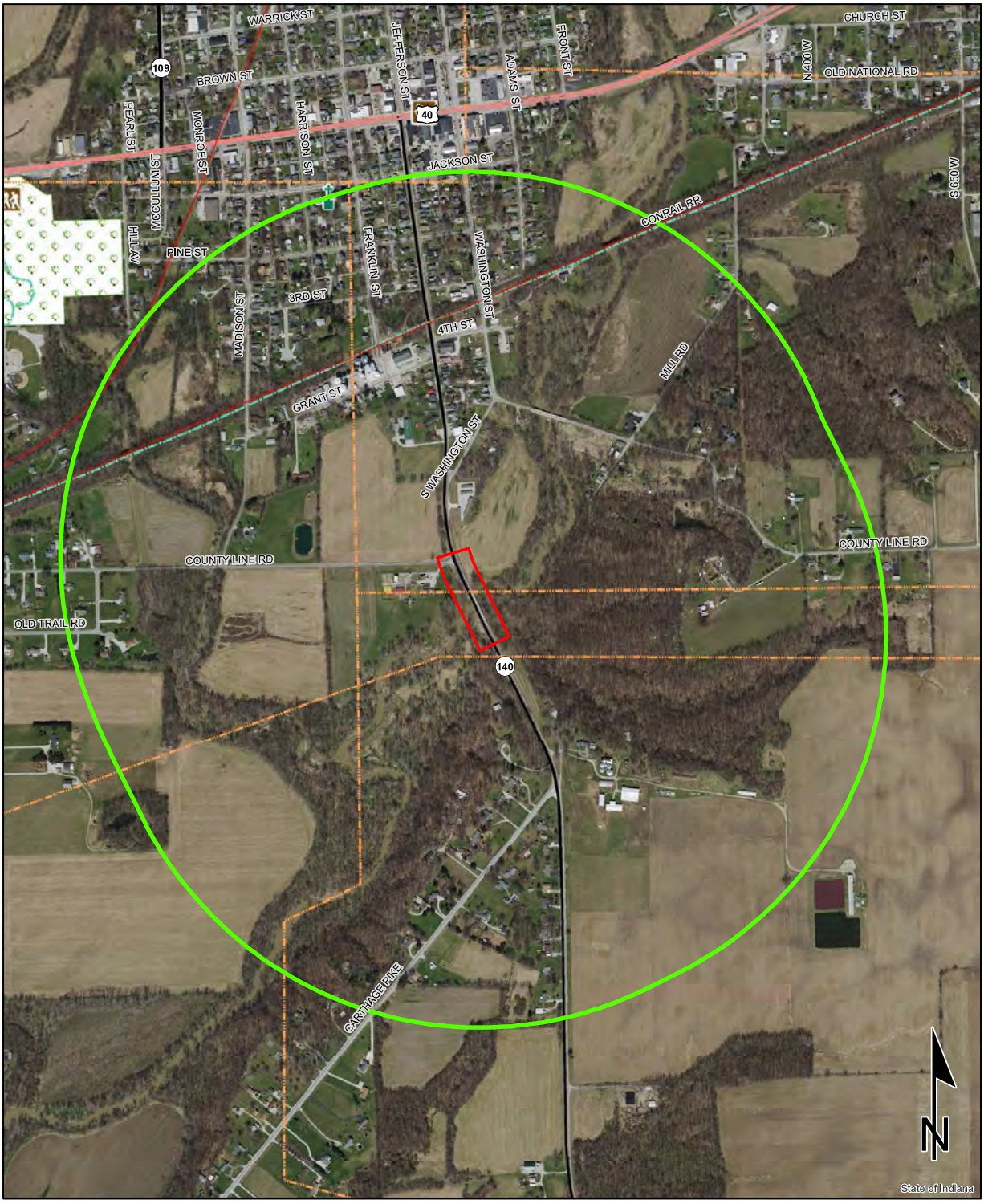
1 0.5 0 1 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

KNIGHTSTOWN
QUADRANGLE INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
SR 140 over Big Blue River, 0.68 Mile South of US 40
Des. No. 2002071, Bridge Replacement
Rush County, Indiana



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Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
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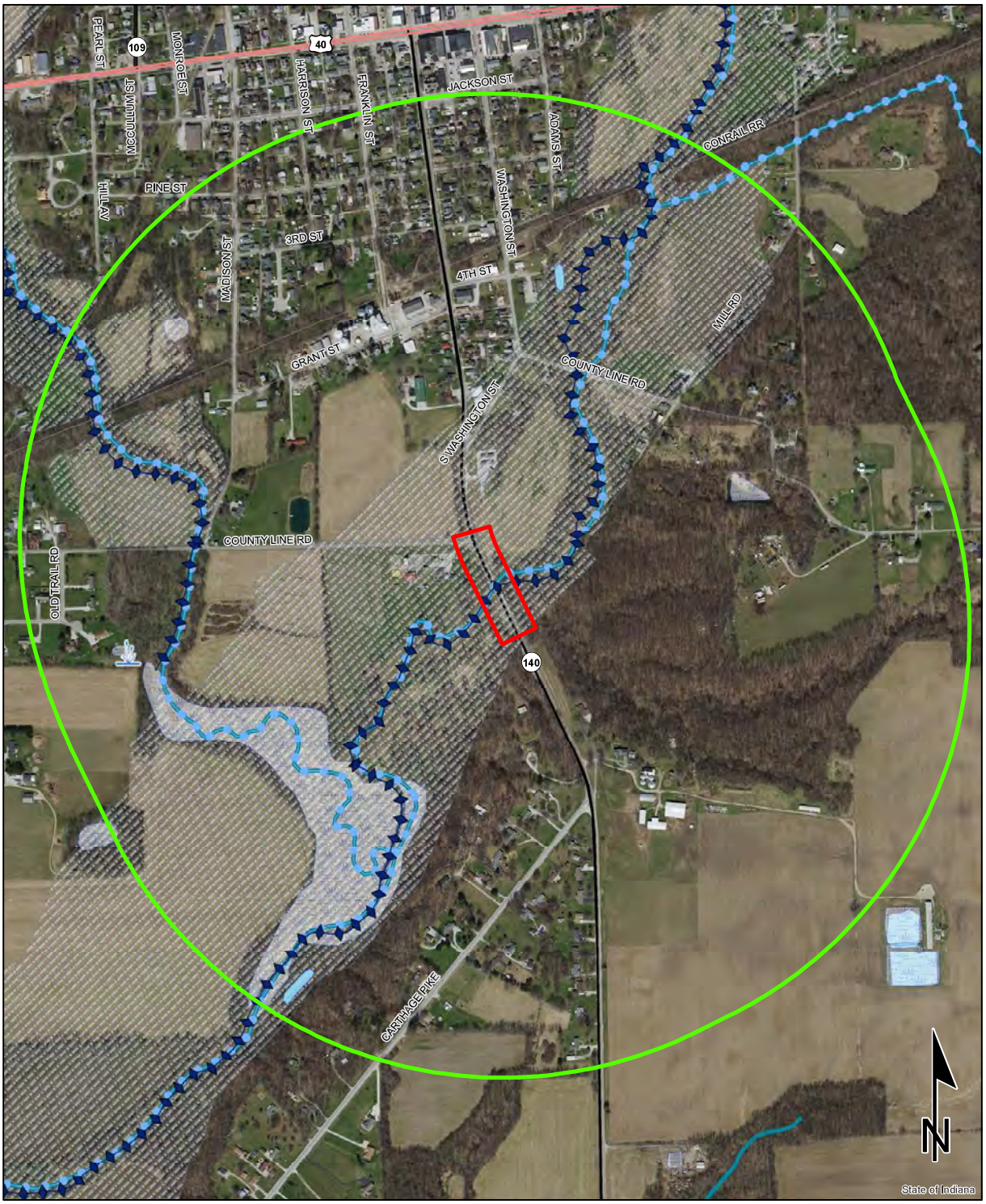
- Religious Facility
- Airport
- Cemeteries
- Hospital
- School
- Recreation Facility
- Pipeline
- Railroad
- Trails
- Managed Lands
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources
SR 140 over Big Blue River, 0.68 Mile South of US 40
Des. No. 2002071, Bridge Replacement
Rush County, Indiana



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Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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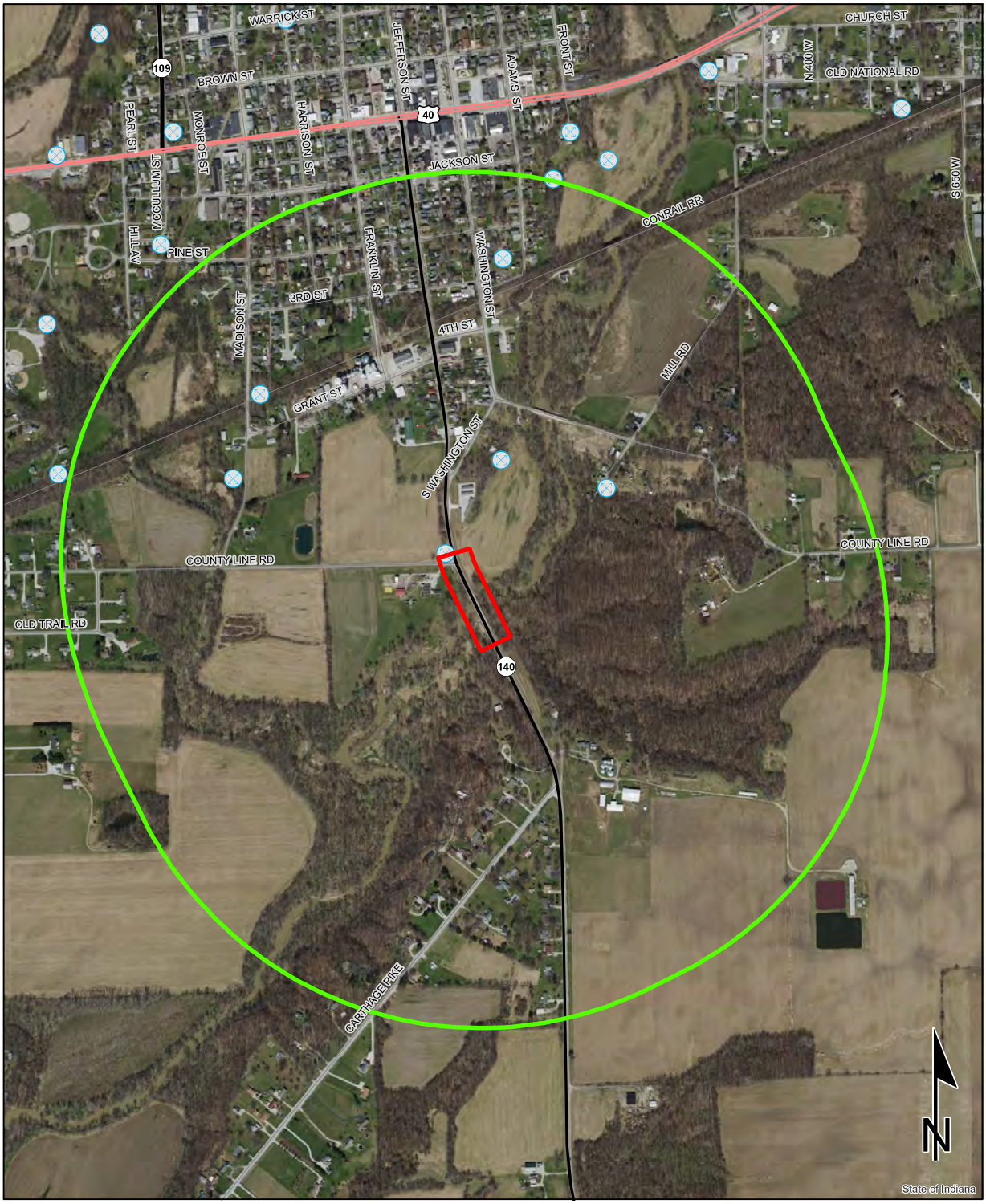
- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Mining and Mineral Exploration
SR 140 over Big Blue River, 0.68 Mile South of US 40
Des. No. 2002071, Bridge Replacement
Rush County, Indiana



0.15 0.075 0 0.15 Miles

Sources:
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Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
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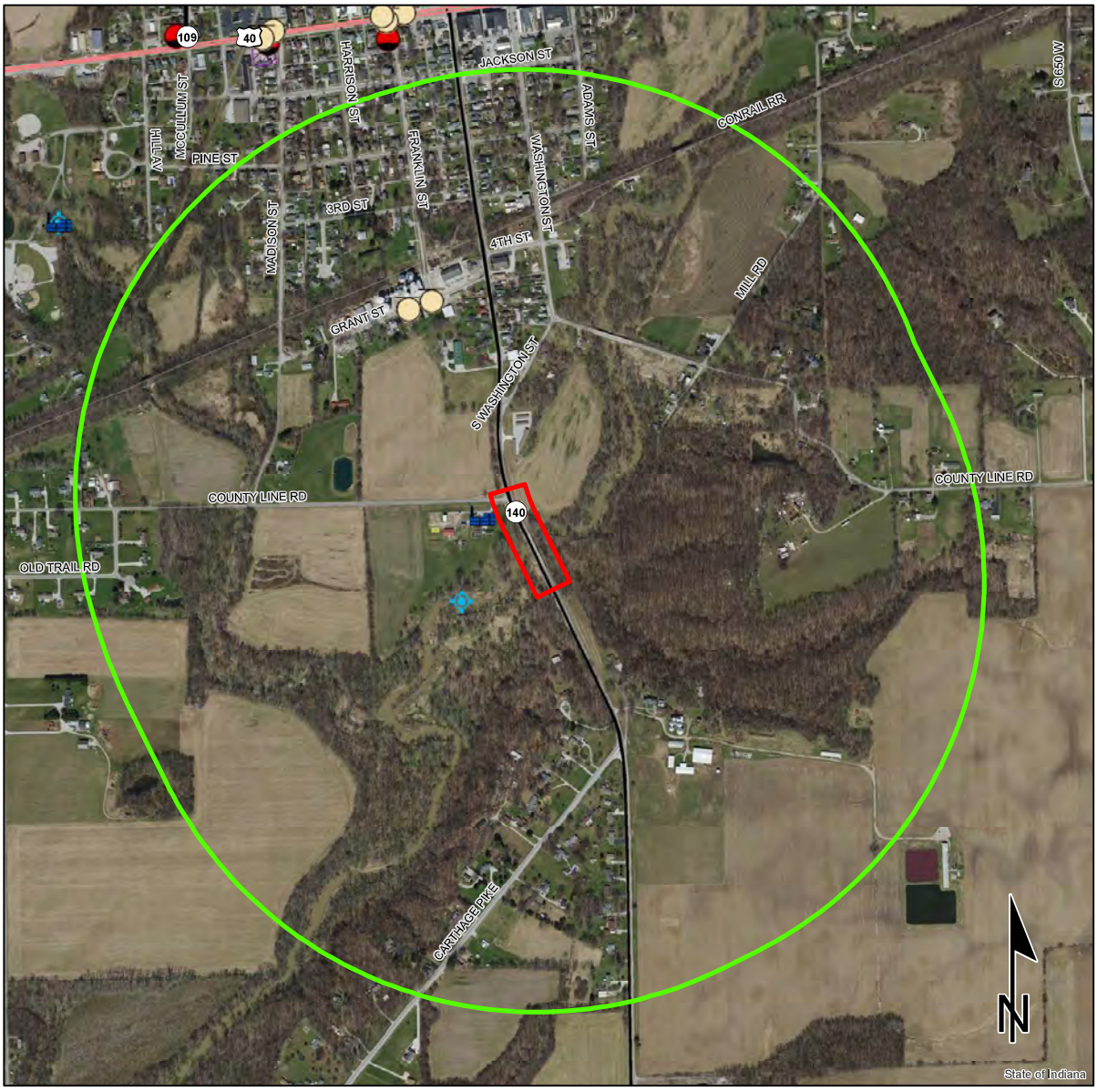
- Oil and Gas Wells
- Mineral Resources
- Mine - Surface
- Mine - Underground
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Hazardous Material Concerns
SR 140 over Big Blue River, 0.68 Mile South of US 40
Des. No. 2002071, Bridge Replacement
Rush County, Indiana



- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

0.15 0.075 0 0.15 Miles

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Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-ES
Indianapolis, Indiana 46204

PHONE: (855) 463-6848
(855) INDOT4U

Eric Holcomb, Governor
Michael Smith, Commissioner

Date: October 23, 2023

To: Site Assessment & Management (SAM)
Environmental Policy Office - Environmental Services Division (ESD)
Indiana Department of Transportation (INDOT)
100 N Senate Avenue, Room N758-ES
Indianapolis, IN 46204

From: Brigitte Moneymaker
Kaskaskia Engineering Group, LLC
323 Main Street, Suite E
Evansville, Indiana 47708

Re: RED FLAG INVESTIGATION ADDENDUM
DES #2002071, State Project
Bridge Replacement
SR 140 over Big Blue River, 0.68 Mile South of US 40
Henry and Rush County, Indiana

A review of the original RFI signed on September 1*, 2023, for the above DES No. indicated substantive changes have occurred within the project area limits that will have an impact to the project. The proposed state project is located on SR 140 over the Big Blue River, 0.68 mile south of US 40 in the INDOT Greenfield District, and includes a total bridge replacement and reconstruction of the approach roadway. The original RFI identified the project was located in Rush County; however, the project is located in Henry and Rush County. Since the approval of the original RFI, the extent of the project limits has been revised to capture the entirety of the temporary runaround mentioned in the maintenance of traffic section in the original signed RFI. The revised project limits extend an additional 0.05 mile south and an additional 0.06 mile north, but the east and west limits remain the same. The permanent and temporary right-of-way that was identified in the original RFI document is still accurate.

The following items were not detailed in the original RFI document (September 1*, 2023), but have since been identified as having an impact on the project area and requiring additional coordination.

1. Infrastructure—
   Pipelines: As indicated above, the project limits have extended approximately 0.05 mile south of the original project limits. As such, one (1) pipeline, BP Oil Pipeline Company, is now located within the project area. Coordination with INDOT Utilities and Railroads should occur.

INDOT Environmental Services concurrence: Peter Washburn Digitally signed by Peter Washburn Date: 2023.10.23 15:40:39 -04'00' _____ (Signature)

* corrected the date

Prepared by:

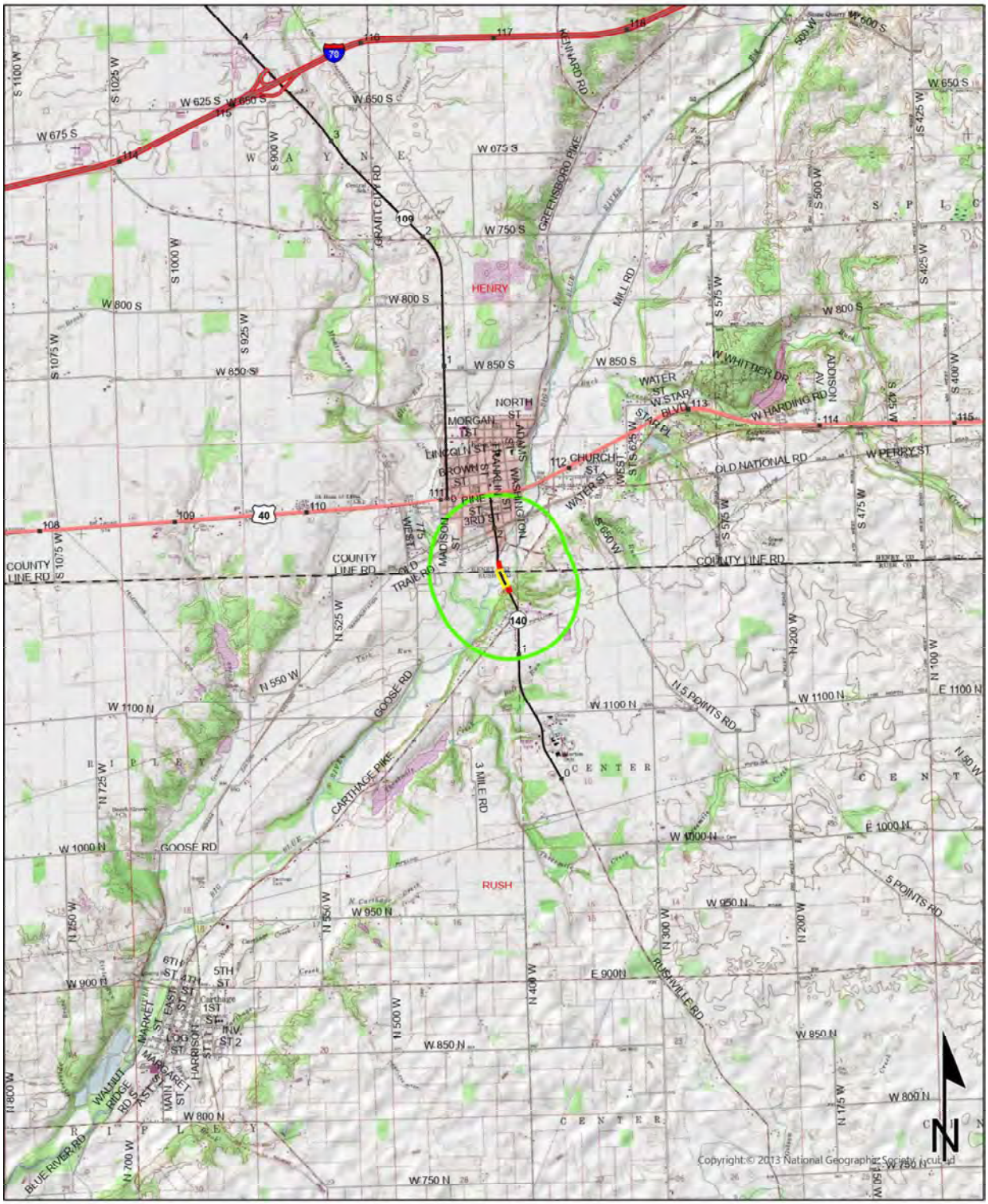
Brigitte Moneymaker
Environmental Scientist
Kaskaskia Engineering Group, LLC

Graphics:
A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

SITE LOCATION: YES

INFRASTRUCTURE: YES

Red Flag Investigation - Site Location
SR 140 over Big Blue River, 0.68 Mile South of US 40
Des. No. 2002071, Bridge Replacement
Henry and Rush Counties, Indiana



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Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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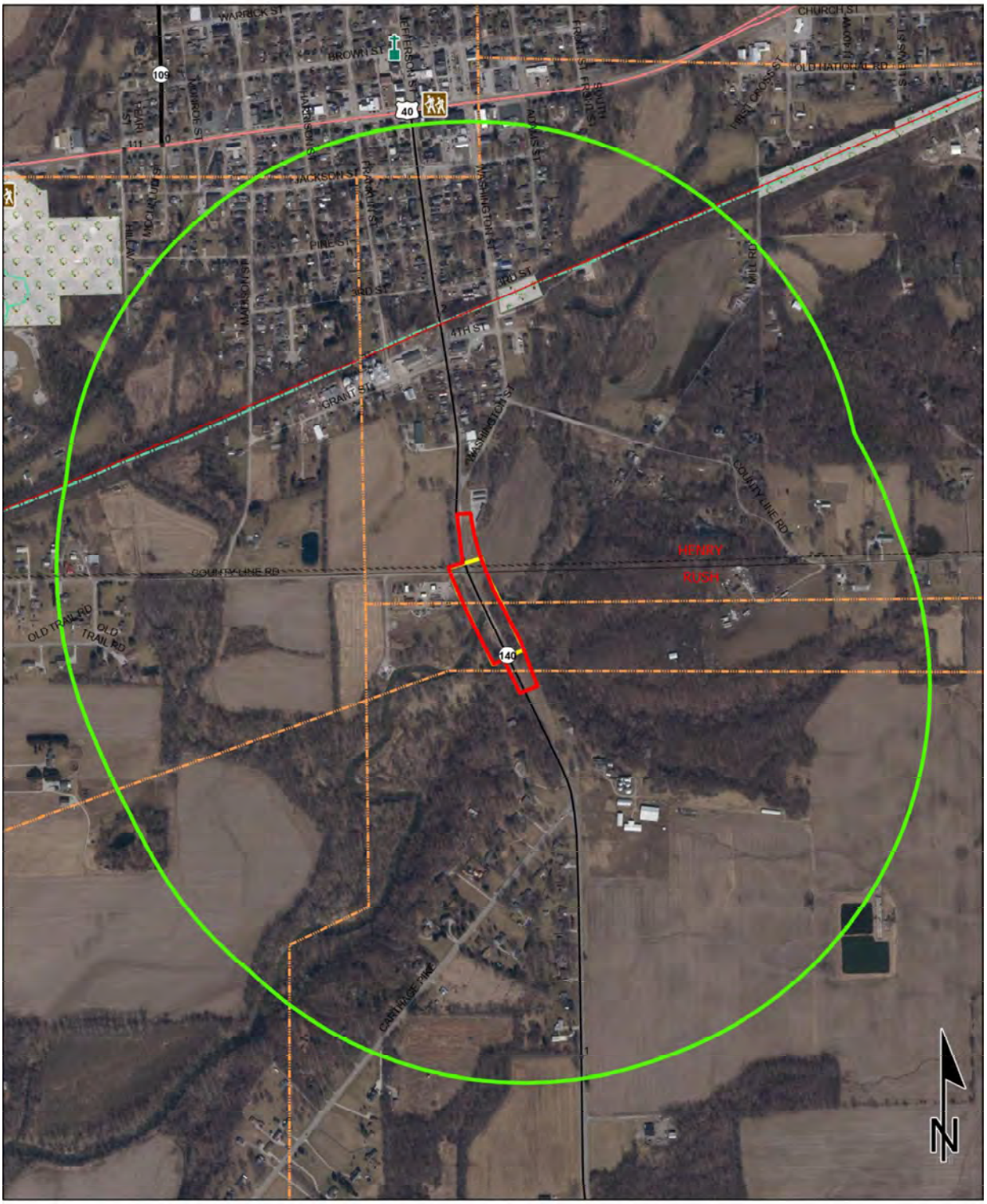
KNIGHTSTOWN INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
SR 140 over Big Blue River, 0.68 Mile South of US 40
Des. No. 2002071, Bridge Replacement
Henry and Rush Counties, Indiana



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Map Projection: UTM Zone 16 N **Map Datum:** NAD83

0.15 0.07 0 0.15 Miles

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- Religious Facility
- Airport
- Cemeteries
- Hospital
- School
- Recreation Facility
- Pipeline
- Railroad
- Trails
- Managed Lands
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Appendix F
Water Resources

Approved 12.27.23

Waters Report
SR 140, over Big Blue River
0.68 Mile South of S 40
Henry and Rush Counties, IN
Bridge Replacement
Des No 2002071
Asset ID: 140-70-06039 B / NBI 026970

Prepared by: April Arroyo-Monroe
Contact Information: april@kaskaskiaeng.com, 812-314-7041
Kaskaskia Engineering Group, LLC
Completed Date: December 13, 2023

1.0 PROJECT INFORMATION

Date of Waters Field Investigation:
July 5, 2023

Project Location:
Knightstown Quadrangle
Section 33 Township 16 N Range 9 E
Section 4 Township 15 N Range 9 E
Lat/Lon: 39.78616 -85.52444
Henry and Rush Counties, Indiana

Project Description:
The proposed state project (Des. Nos. 2002071) is located on SR 140 over Big Blue River, 0.68 mile south of US 40 in the Indiana Department of Transportation (INDOT) Greenfield District (Figure 1). The project includes a total bridge replacement (Str. # 140-70-06039 B / NBI 026970) and reconstruction of the approach roadway.

2.0 OFFICE EVALUATION

Results:
USGS Mapping
The USGS (Untied States Geological Survey) Knightstown Quadrangle, Indiana 7.5-minute topographic quadrangle map indicates one perennial blue line channel, Big Blue River, within the investigated area (Figures 2 and 3).

NWI Mapping
The NWI (National Wetland Inventory) map was reviewed for potential wetlands in, or adjacent to, the investigated area (Table 1 Figure 4). There is a riverine (R2UBH) NWI wetland within the investigated area representing Big Blue River. This feature is located across the center of the investigated area, under the project bridge.

Table 1 - Soil Units within the Investigated Area

Wetland Feature Type	Cowardin Code	Code definition	Location
River	R2UBH	Riverine lower perennial, unconsolidated bottom, permanently flooded	Across the center of the investigated area, under the project bridge

Mapped Soil Units

The Web Soil Survey geographic database for Henry County, Indiana (USDA- NRCS Web Soil Survey, 2023), shows that the north part of the investigated area within Henry County, is on one predominantly non-hydric soil unit. Ge is an occasionally flooded Genesee loam. The south section of the investigated area is on two soil units in Rush County, Indiana. MpE is a Miamian silt loam with 18% to 35% slopes and Ge is a Genesee loam on gravelly substratum. (Table 2, Figure 5).

Table 2 - Soil Units within the Investigated Area

Soil Unit Symbol	Soil Unit Name	Hydric Rating	Hydric Status
Henry County			
Ge	Genesee loam, occasionally flooded	3%	Predominantly Non-Hydric
Rush County			
Ge	Genesee loam, gravelly substratum	3%	Predominantly Non-Hydric
MpE	Miamian silt loam, 18% to 35% slopes	0%	Predominantly Non-Hydric

Source: NRCS Web Soil Survey, 2023

Hydrology

According to the USGS NHD (National Hydrography Dataset) map there are five flowlines within the investigated area. An artificial path, indicating Big Blue River, flowing southwest, across the center of the investigated area, two short artificial paths of Big Blue River just northeast of the bridge. There are also two StreamRiver flowlines, one along the northeast side of SR 140, indicating flow to the short Artificial Path (both associated with RSD1 found during the field visit) on the east side of Big Blue River while the other indicates flow from the southeast to the short Artificial Path (both associated with UNT to Big Blue River found during the field visit) on the southeast side of Big Blue River (Figure 6).

At the bridge, Big Blue River has an upstream drainage of 134.098 square miles, according to USGS StreamStats, and it is within USGS 12-digit Hydrological Unit Code (HUC) 051202040108) (Goose Creek-Big Blue River) Sub-watershed. Big Blue River is a Section 10 Navigable River at the proposed project location. Near the mouth of at the mouth of UNT to Big Blue River, the upstream drainage is 0.269 square miles.

The investigated area is within a FEMA (Federal Emergency Management Agency) ZONE AE FEMA Administrative Floodplain of Big Blue River with a base flood elevation of 891.2 feet, according to the INDR Best Available Floodplain Layer (Figure 7).

This project does not lie within the karst region of Indiana. There were no mapped karst features within the investigated area.

3.0 FIELD RECONNAISSANCE

A field visit was conducted by Kaskaskia Engineering Group, LLC staff on July 5, 2023, to document and survey the presence of streams, wetlands, and other water resources within the investigated area. The field investigation area, shown on the attached maps, encompassed a slightly larger area than the construction survey footprint to account for water resources adjacent to the project site.

Results:

Bats and Birds

The structures were investigated for the presence of migratory bird nests and/or evidence of bats during the site visit. There was one unidentifiable bird nest on the bridge and no evidence of bats on or under the bridge (Photo

56).

Wildlife Evidence and Concerns
At the time of the field visit, there was evidence of terrestrial wildlife, deer and racoon, using the area under the bridge (Photo 54).

Karst
There were no karst features found within the investigated area.

Streams
Two streams were identified within the investigated area.

Big Blue River
Hydrologic conditions were drier than normal (mild drought) based on the previous three months of rainfall compared to a 30-year normal range (USACE (United States Army Corps of Engineers) APT (Antecedent Precipitation Tool) v 1.0.20). Big Blue River would likely be classified as a perennial stream because it had a defined bed and bank and a base flow, east to west, during a drier than normal period in the dry season, enough to sustain a small fish population. The channel was oriented northeast/southwest under SR 140. The upstream drainage (134.098 square miles) consisted of all typical landscapes in central Indiana from rural to urban, from forest to farmland. Within the investigated area, the landscape was upland forest. The investigated area was surrounded by rural residential, forest and row-crop agricultural land with a wastewater treatment plant to the northwest. The stream had an ordinary water mark. The ordinary high-water mark was (OHWM) approximately 27 feet wide and 1 foot deep (Lat: 39.78623 Lon: -85.52362) as measured approximately 210 feet upstream from the bridge, outside of the influence of the bridge. Water was flowing slowly during the site visit and both banks were an estimated 5 feet high. The OHWM was characterized by a clear, natural line impressed on the bank, destruction of vegetation and shelving. Big Blue River had a very well-defined bed and bank. The substrate within the channel of this reach was sand, silt and muck. There were no riffles, or plants within the stream but there were pools on the curves. Overhead cover from vegetation was approximately 50 percent. Dominant vegetation along the banks was Virginia creeper *(Parthenocissus quinquefolia* - FACU), mayapple (*Podophyllum peltatum* – FACU)**,** dames rocket (*Hesperis matronalis* – FACU), wrinkledleaf goldenrod (*Solidago rugosa* – FAC)**,** box elder (*Acer negundo* – FAC), garlic mustard (*Alliaria petiolate* – FAC), Virginia wild rye (*Elymus virginicus* – FACW), wood nettle (*Laportea canadensis* – FACW), bristly greenbrier (*Smilax hispida*- FAC), silver maple (*Acer saccharinum* – FACW), oriental lady's thumb (*Persicaria longiseta* – FAC), and wing stem (*Verbesina alternifolia* – FACW)**.** Based on a qualitative assessment, this resource was an average quality within this reach due to in-stream cover and habitat potential. Big Blue River is a Section 10 traditional navigable waterway. Big Blue River would likely be a Waters of the United States.

UNT to Big Blue River
On the southeast side of the bridge, there was a small stream flowing into Big Blue River, UNT (Unnamed Tributary) to Big Blue River. It had a defined bed and bank; slowly flowing water was present during the field visit. The OHWM was approximately 7.1 feet wide and 0.34 feet deep (Lat: 39.78589 Lon: -85.52423) as measured 115 feet upstream from the junction with Big Blue River, outside of the influence of the flow of Big Blue River. It was characterized by destruction of vegetation and shelving. The substrate was sand, pebbles and gravel. Water was flowing slowly during the site visit and there were no riffles, pools, or plants in the stream. Each bank was an estimated 5 feet high. Overhead cover from vegetation was approximately 90 percent. Dominant vegetation along the banks was eastern black walnut (*Juglans nigra* – FACU), Amur honeysuckle (*Lonicera maackii* – INV), bristly greenbrier (FAC), Canada clearweed (*Pilea pumila* – FACW), jewelweed *(Impatiens capensis* – FACW), bindweed (*Convolvulus arvensis* -INV), and American sycamore (*Platanus occidentalis* – FACW). UNT to Big Blue River would likely be classified as a perennial stream because it had a defined bed and bank and a base flow, south to north, during a mild drought in the dry season. The upstream drainage (0.269 square miles) consisted of upland forest and rural residential areas. Based on a qualitative assessment, this resource was an

average quality within this reach due to in-stream cover, substrate type and habitat potential.

UNT to Big Blue River joins Big Blue River, a Section 10 traditional navigable waterway. UNT to Big Blue River would likely be a Waters of the United States.

Table 3 - Stream Summary Table

ID	Coordinates (Decimal Degrees)		USGS Blue-Line (Y/N)	Stream Type	Riffle Y/N / Pools Y/N	Substrate	OHWM Width (ft.)	OHWM Depth (ft.)	Stream Relative Quality	Estimated Amount of Aquatic Resources within Investigated Area (acres / linear feet)	Photo Numbers	Likely Water of the U.S.?
	Latitude	Longitude										
Big Blue River	39.78623	-85.52362	Y	Perennial	N / Y	Sand, silt, and muck	27	1	Average	683 lf / 0.42 ac	10, 13, 15, 16, 18, 19, 44, 52, 55, 58,	Y
UNT to Big Blue River	39.78589	-85.52423	N	Perennial	N / N	Sand, pebbles, and gravel	7.1	0.34	Average	315 lf / 0.051 ac	20. 21, 24, 26,	Y

Wetlands:
No wetlands were identified within the investigated area. The land within the investigated area was mown/maintained lawn, mown side slopes, agricultural fields, and upland forest. There were no signs of dominant hydrophytic vegetation or wetland hydrology. These conditions are not conducive to the formation of wetlands.

Roadside Ditch
Five RSDs (roadside ditches) were in the investigated area (Figure 8).

RSD1
Located northeast of the bridge, RSD1 was a mown grassy swale in front of a commercial area. and was oriented so that water would flow southeast into Big Blue River. RSD1 transitions from mown grassy swale to roughly mown vegetated swale as the adjacent area transitions from commercial property to row crop agriculture. The vegetation in this ditch and on the slope was predominantly tall fescue (*Schedonorus arundinaceus*-FACU).

RSD2
RSD2 was southeast of the culvert and had a concrete bottom. It was oriented so water would flow northwest to Big Blue River.

RSD3
RSD3 was located on the southwest side of the bridge, was oriented such that any water would flow northeast to Big Blue River and had a concrete bottom.

RSD4
Located northwest of the bridge, RSD4 was a roughly mown vegetated swale oriented so that water would flow southeast to Big Blue River. The vegetation in this ditch and on the slope was predominantly tall fescue.

RSD5
RSD5 was northwest of the bridge and RSD4, at the County Line Road intersection with SR 140. It was a rough mown vegetated swale oriented so that any water would flow southeast to RSD4. The dominant vegetation was primarily box elder (FAC), Canada goldenrod (FACU), wild carrot (UPL), and tall fescue.

All five RSDs were determined to be excavated wholly in and draining only uplands and did not carry a relatively permanent flow of water. All of the RSDs are likely not jurisdictional.

Table 4 – Roadside Ditches Summary Table

ID	Latitude	Longitude	Description	Photos	Length (ft)
RSD1	39.78611	-85.52444	Northeast of the Bridge, Mown commercial lot (grassy swale) to roughly mown vegetation	1, 2, 3, 4, 6, 7,	793
RSD2	39.78707	-85.52492	Southeast of the bridge Concrete to vegetated to UNT to Big Blue River	32, 34, 35	744
RSD3	39.78527	-85.52419	Southwest of the bridge Concrete to vegetated	36, 37, 38, 39, 40, 41, 42, 46,	681
RSD4	39.78642	-85.52495	Northwest of the bridge Vegetated	61, 62, 64	371
RSD5	38.78695	-85.52525	Northwest of RSD4 (at the intersection of County Line Rd and SR 140) Vegetated	65	49

4.0 CONCLUSIONS

Big Blue River is a listed on the Indiana Navigable Waters Roster as Section 10 Traditional navigable waterway in Rush County, is a blue line on the USGS topo map, is represented by a NHD flow line, has a defined bed and bank, exhibited a flow during a mild drought, and had an OHWM. UNT to Big Blue River also is represented by a NHD flow line, has a defined bed and bank, exhibited a flow during a mild drought, and had an OHWM.

Observations and data determined two likely jurisdictional perennial streams, Big Blue River and UNT to Big Blue River, within the investigated. Every effort should be taken to avoid and minimize impacts to wetlands and waterways. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgment based on the guidelines set forth by the USACE.

5.0 ACKNOWLEDGEMENT

This waters determination report has been prepared based on the best available information, interpreted in the light of the investigator's training, experience, and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual*, the appropriate regional supplement, the USACE *Jurisdictional Determination Form Instructional Guidebook*, and other appropriate agency guidelines.

Respectfully,

Kaskaskia Engineering Group, LLC

April Arroyo-Monroe Date: December 13, 2023

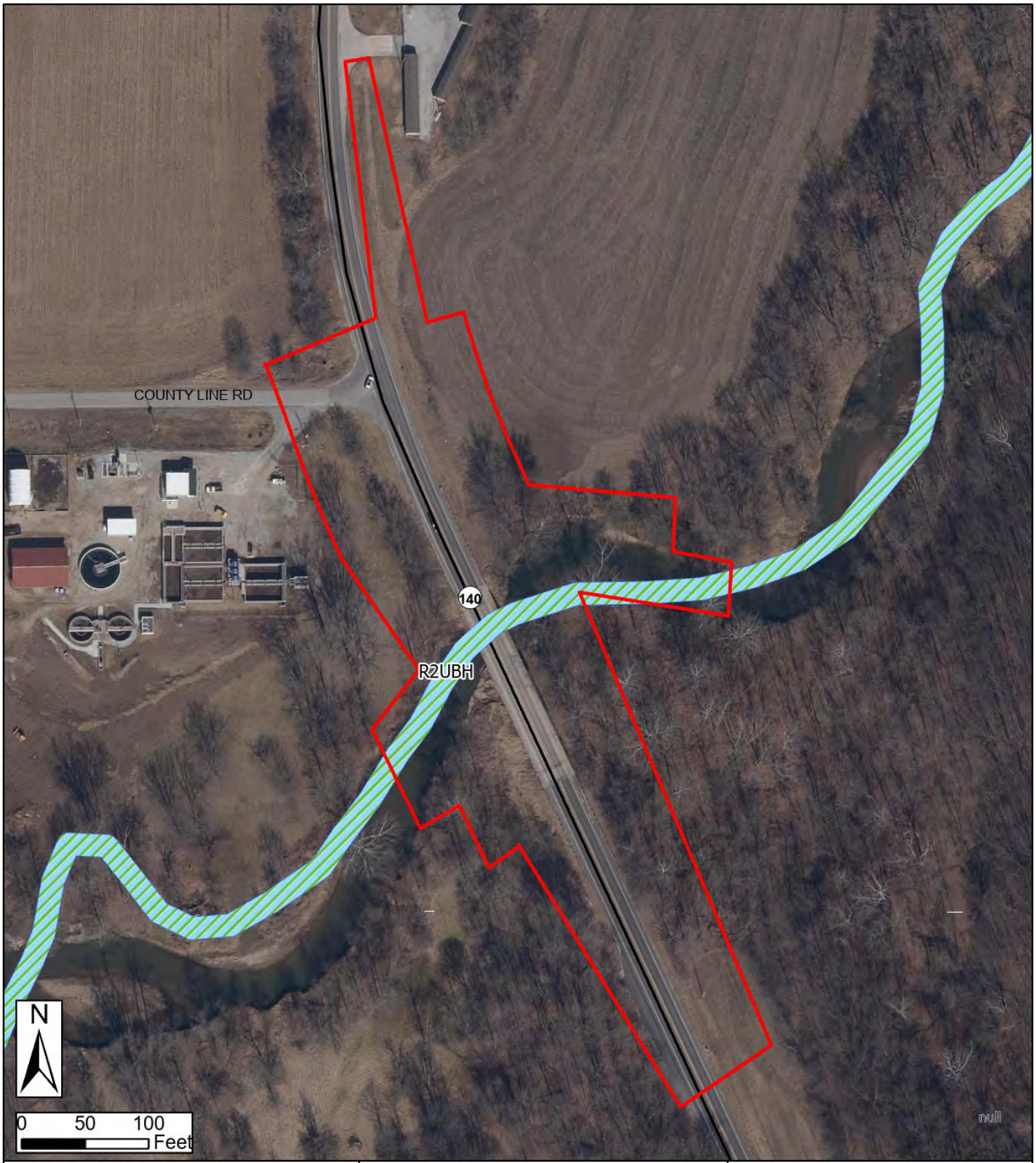


Figure 4
National Wetland Inventory Map

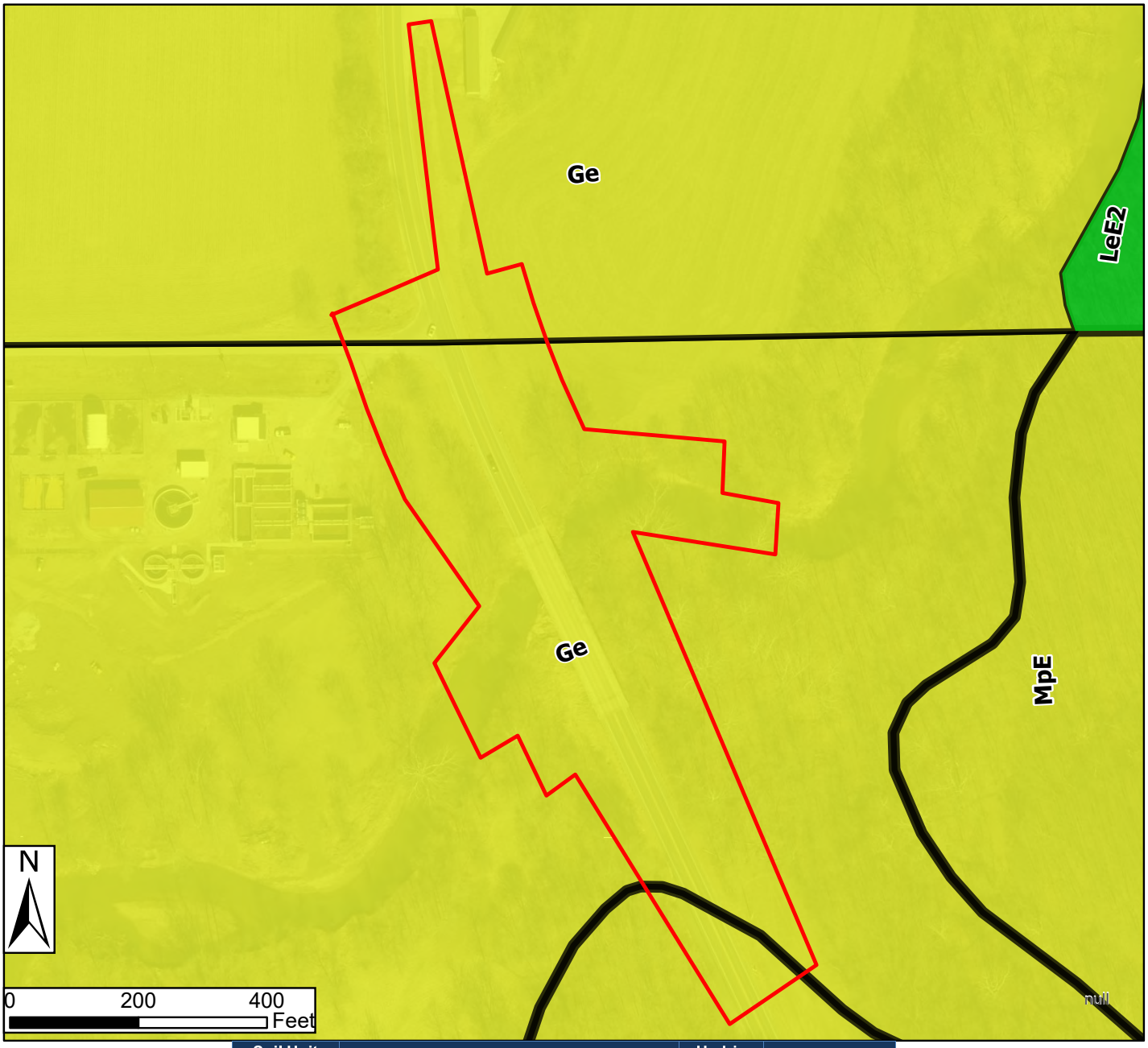
Bridge Replacement
SR 140 over Big Blue River
0.68 mile south of US 40
Henry and Rush Counties, Indiana
Des No 2002071, State Project

Investigated Area
Freshwater Emergent Wetland
Freshwater Forested/ Shrub Wetland
Freshwater Pond
Lake
Riverine

Source: USFWS NWI Wetlands 2023

Kaskaskia Engineering Group, LLC

Created on Date:12/13/2023



Soil Unit Symbol	Soil Unit Name	Hydric Rating	Hydric Status
	Henry County		
Ge	Genesee loam, occasionally flooded	3%	Predominantly Non-Hydric
	Rush County		
Ge	Genesee loam, gravelly substratum	3%	Predominantly Non-Hydric
MpE	Miamian sit loam, 18% to 35% slopes	0%	Predominantly Non-Hydric

Figure 5
USDA Soils Map
Bridge Replacement
SR 140 over Big Blue River
0.68 mile south of US 40
Henry and Rush Counties, Indiana
Des No 2002071, State Project

Investigated Area
0% Non-Hydric
1%-32% Predominantly Non-Hydric
66%-99% Partially Hydric
66%-Predomnantly Hydric
100% Hydric

Source: USDA NRCS 2023

Kaskaskia Engineering Group, LLC

Created on Date:11/15/2023

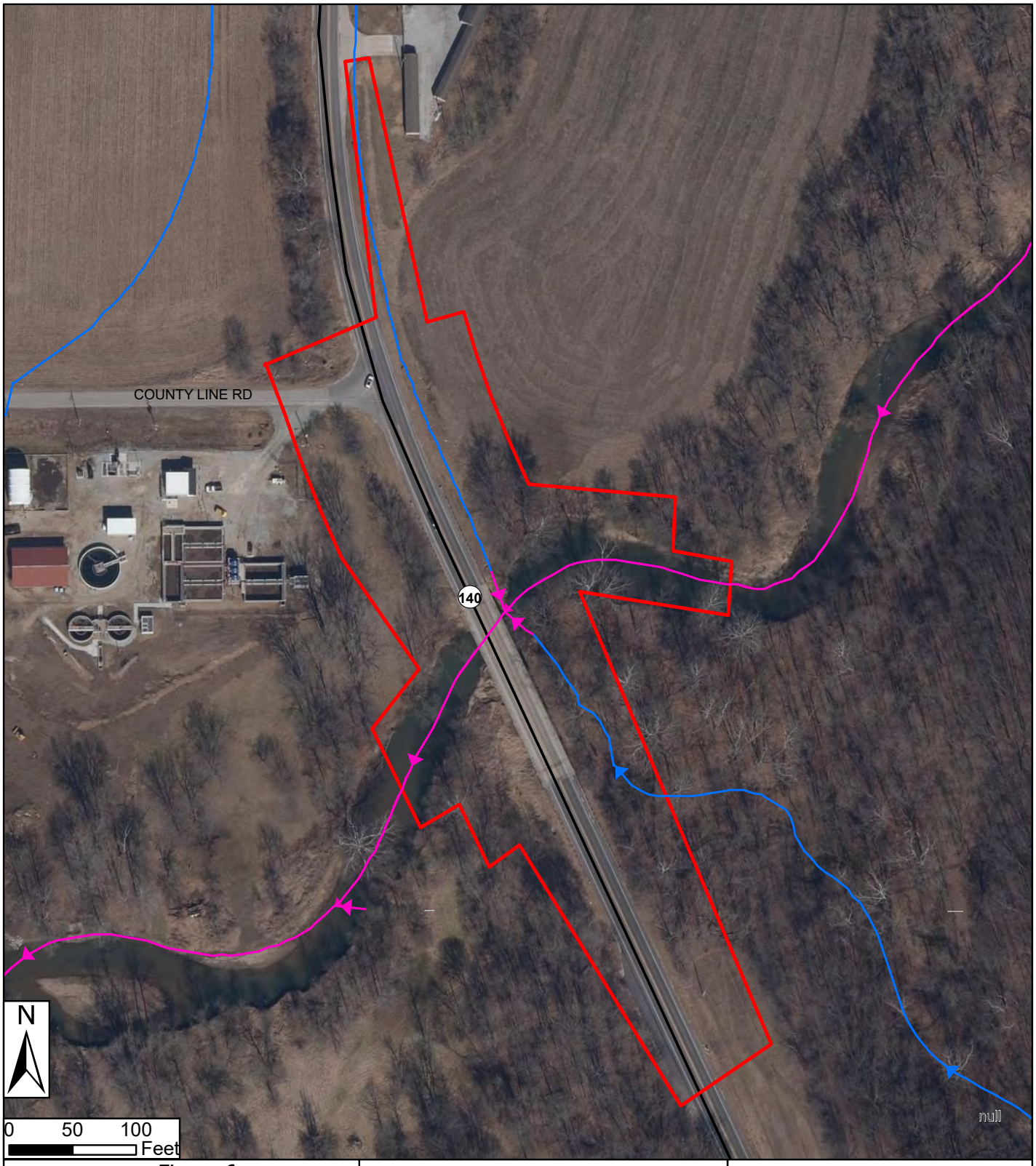


Figure 6
NHD Inventory Map

Bridge Replacement
SR 140 over Big Blue River
0.68 mile south of US 40
Henry and Rush Counties, Indiana
Des No 2002071, State Project

Connector
Pipeline
CanalDitch
StreamRiver
Underground Conduit
ArtificialPath

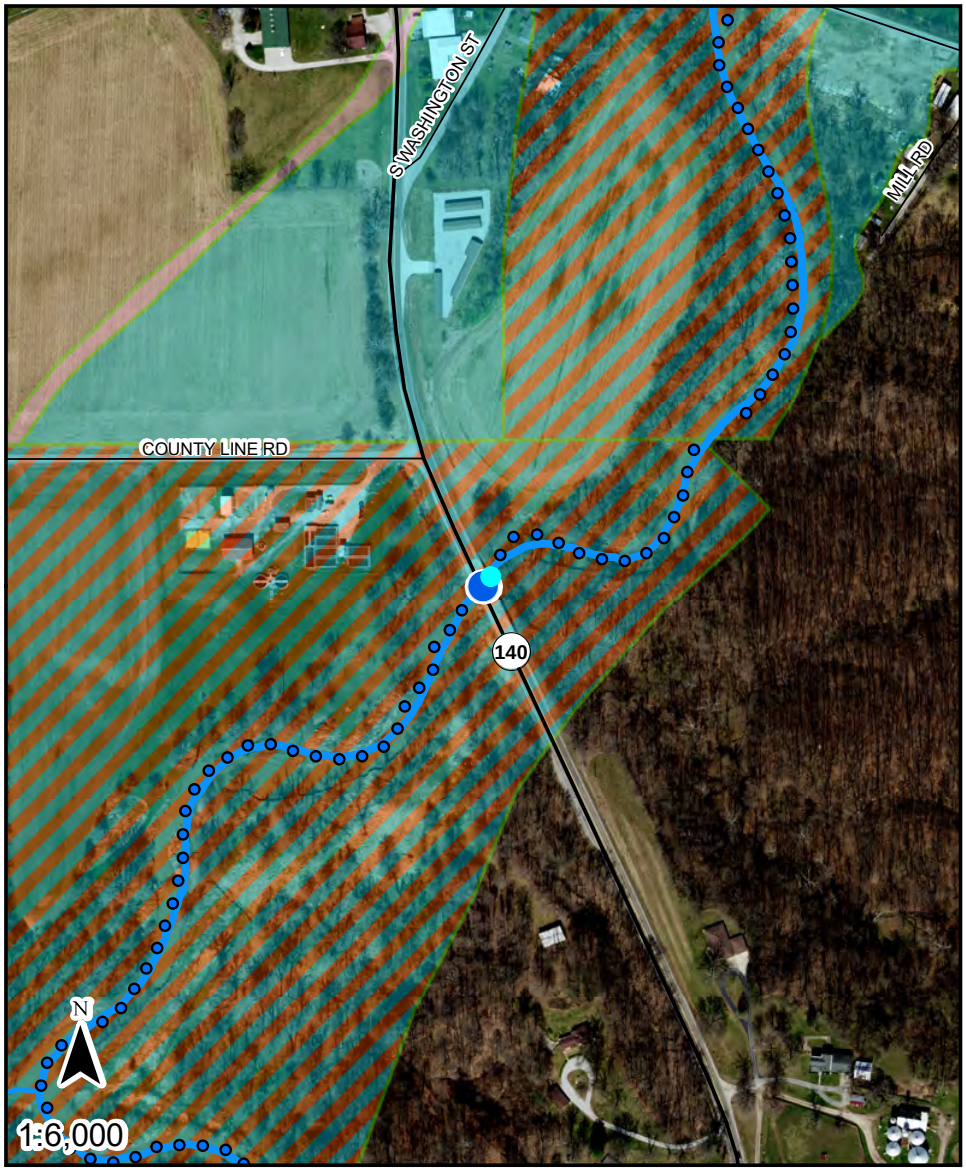
Source: USGS NHD 2023

Kaskaskia Engineering Group, LLC

Created on Date:11/8/2023

Figure 7 Floodplain Analysis & Regulatory Assessment (FARA) Des No 2002071

Indiana Department of Natural Resources



Point of Interest

Base Flood Elevation Point

Flood Elevation Points

STUDIED STREAM

Rivers and Streams at least 1 square mile

Drainage Area (sq. miles)

10 - 100

100 - 500

FEMA Zone AE Floodway; FEMA Administrative Floodway

FEMA Zone AE

Additional Floodplain Area; DNR .2 Percent Flood Hazard

Point of Interest Coordinates (WGS84)

Long: **-85.5245476621**

Lat: **39.786098836**

The information provided below is based on the point of interest shown in the map above.

County: **Rush**

Stream Name: **Big Blue River**

Approximate Ground Elevation: **882.0 feet (NAVD88)**

Base Flood Elevation: **891.2 feet (NAVD88)**

Drainage Area: **Not available**

Best Available Flood Hazard Zone: **FEMA Zone AE Floodway**

National Flood Hazard Zone: **FEMA Zone AE Floodway**

Is a Flood Control Act permit from the DNR needed for this location? **yes**

Is a local floodplain permit needed for this location? **yes-**

Floodplain Administrator: **Gregg Duke, Executive Director, Planning and Zoning**

Community Jurisdiction: **Rush County, County proper**

Phone: **(765) 932-3090**

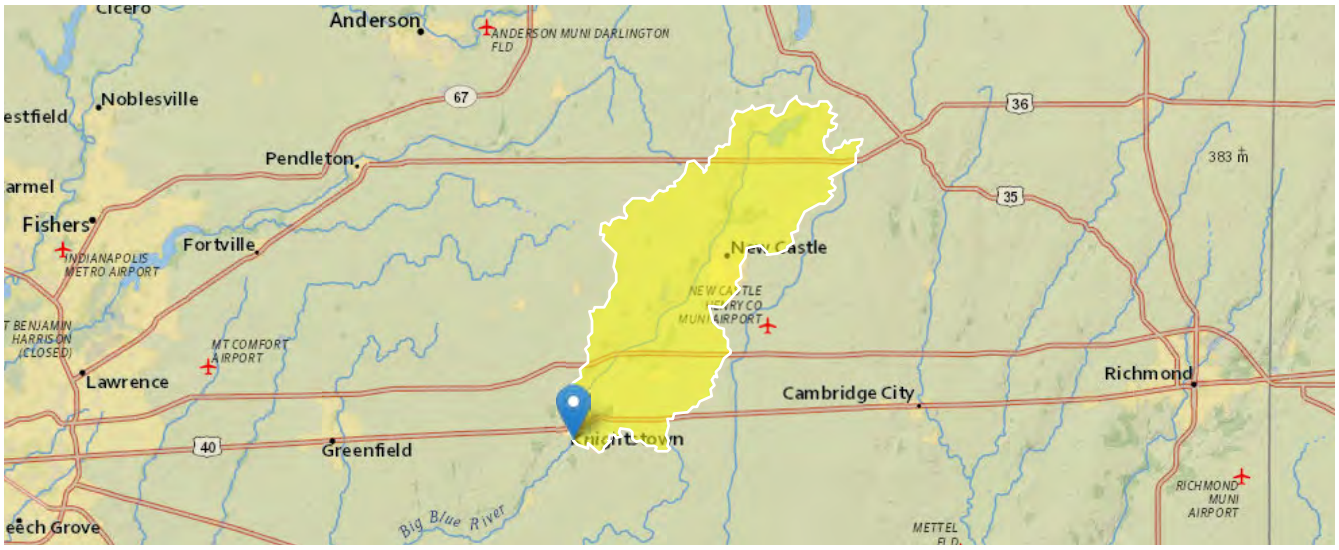
Email: **planningdirector@rushcounty.in.gov**

US Army Corps of Engineers District: **Louisville**

Date Generated: 9/28/2023

StreamStats Report Big Blue River Des 2002071

Region ID: IN
Workspace ID: IN20231213183049016000
Clicked Point (Latitude, Longitude): 39.78620, -85.52447
Time: 2023-12-13 12:32:35 -0600



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	134.098	square miles
K2INDNR	Average hydraulic conductivity (ft/d) for the full depth of unconsolidated deposits from InDNR well database.	24	ft per day
LC01FOREST	Percentage of forest from NLCD 2001 classes 41-43	11.4	percent
LOWREG	Low Flow Region Number	1729	dimensionless
QSSPERMTHK	Index of the permeability of surficial Quaternary sediments computed as in SIR 2014-5177	6478.52	dimensionless
T2INDNR	Average transmissivity (ft2/d) for the full depth of unconsolidated deposits from InDNR well database.	2096	square feet per day

StreamStats Report UNT to Big Blue River Des 2002071

Region ID: IN
Workspace ID: IN20231213182232043000
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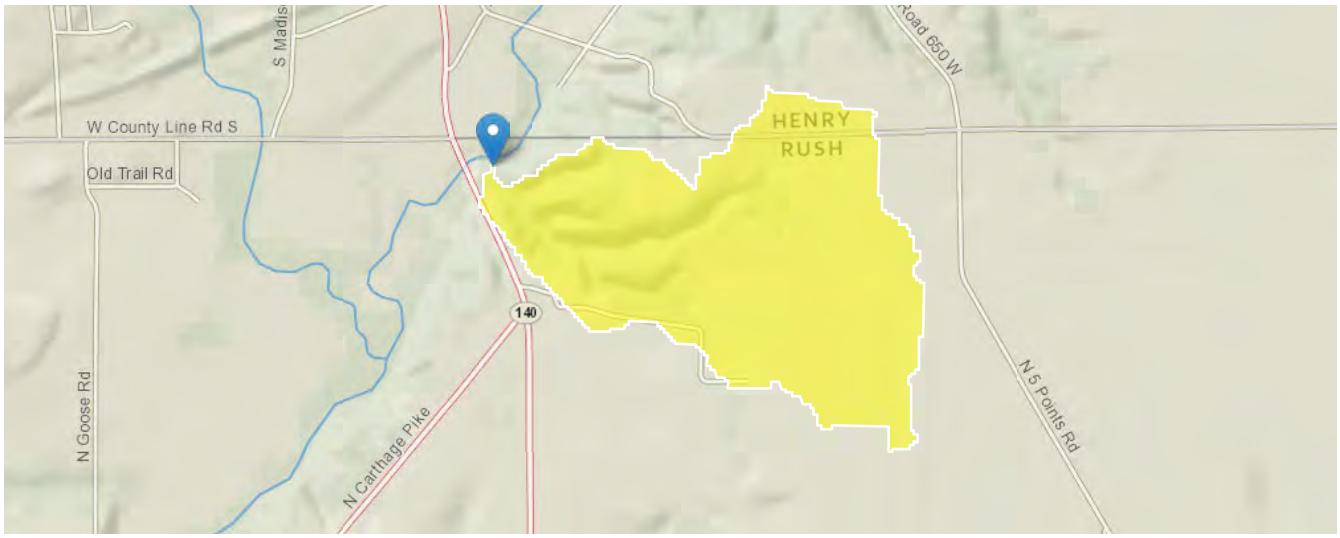
Time: 2023-12-13 12:24:16 -0600



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.269	square miles
K2INDNR	Average hydraulic conductivity (ft/d) for the full depth of unconsolidated deposits from InDNR well database.	27	ft per day
LC01FOREST	Percentage of forest from NLCD 2001 classes 41-43	26.3	percent
LOWREG	Low Flow Region Number	1729	dimensionless
QSSPERMTHK	Index of the permeability of surficial Quaternary sediments computed as in SIR 2014-5177	121.89	dimensionless
T2INDNR	Average transmissivity (ft2/d) for the full depth of unconsolidated deposits from InDNR well database.	1274	square feet per day

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: December 13, 2023

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: April Arroyo-Monroe, 323 Main St., Suite 3 Evansville, IN 47708

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The proposed state project (Des. Nos. 2002071) is located on SR 140 over Big Blue River, 0.68 mile south of US 40 in the Indiana Department of Transportation (INDOT) Greenfield District. This project is in Rush and Henry Counties, Ripley Township, Knightstown Quadrangle (Figure 1). The project includes a total bridge replacement (140-70-06039 B / NBI 026970) and reconstruction of the approach roadway.

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: IN County/parish/borough: Henry and Rush City:

Center coordinates of site (lat/long in degree decimal format):

Lat.: Long.: -85.52444

Universal Transverse Mercator: 16

Name of nearest waterbody: Big Blue River

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Big Blue River	39.78623	-85.52361	683 lf/0.42 ac	Non-Wetland Waters	10/404
UNT to Big Blue River	39.78589	-85.52423	315 lf/ 0.051 ac	Non-Wetland Waters	404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

■ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: Figures 1-9 by PJD requester.
Data sheets prepared/submitted by or on behalf of the PJD requestor.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____.

☐ Data sheets prepared by the Corps: _____.

☐ Corps navigable waters' study: _____.

■ U.S. Geological Survey Hydrologic Atlas: NHD Figure 6.
■ USGS NHD data.
USGS 8 and 12 digit HUC maps.

■ U.S. Geological Survey map(s). Cite scale & quad name: Knightstown QUAD IN 10,000 and 24,000 Figures 2 and 3.

■ Natural Resources Conservation Service Soil Survey. Citation: NRCS Figure 4.

■ National wetlands inventory map(s). Cite name: USFWS Figure 4.

☐ State/local wetland inventory map(s): _____.

■ FEMA/FIRM maps: IDNR FARA Figure 7.

☐ 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)

■ Photographs: Aerial (Name & Date): _____.
or ■ Other (Name & Date): Ground Level July 5, 2023.

☐ Previous determination(s). File no. and date of response letter: _____.

☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	April Arroyo-Monroe December 13, 2023
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix G
Public Involvement

INDIANA DEPARTMENT OF TRANSPORTATION
Driving Indiana's Economic Growth

Greenfield District
32 South Broadway
Greenfield, IN, 46140

PHONE: (317) 462-7751
FAX: (317) 467-3987

Eric Holcomb, Governor
Joe McGuinness, Commissioner

August 30, 2021

State Tax ID:

Example Letter

RE: Des No.: 2002071
Road: SR 140
Rush and Henry Counties Indiana
Description: Survey to provide information for the design of a new bridge structure

Notice of Survey/Entry

Dear Property Owner:

The Indiana Department of Transportation (INDOT) will perform a survey for the proposed project. A portion of this survey work may be performed on your property in order to provide design engineers information for project design. The survey work will include mapping the location of features such as trees, buildings, fences, drives, ground elevations, etc. The survey is needed for the proper planning and design of this highway project.

At this stage we generally do not know what effect, if any, our project may eventually have on your property. If we determine later that your property is involved, we will contact you with additional information.

Indiana Code 8-23-7-26 allows the Greenfield District Survey Section, as the authorized employees of INDOT, *Right of Entry* to the project site (including private property) upon proper notification. A copy of a Meaning of Notice of Survey sheet, as found on INDOT's website (http://www.in.gov/indot/2888.htm), is attached to this letter. Pursuant to Indiana Code 8-23-7-27, this letter serves as written notification that we will be performing the above noted survey in the vicinity of your property on or after 06/04/2022.Greg Garrison,

INDOT employees will show you their identification, if you are available, before coming onto your property.

If you own but are not the tenant of this property (i.e. rental, sharecrop), please inform us so that we may also contact the actual tenant of the property prior to commencement of our work.

Under Indiana Code 8-23-7-28, you have a right to compensation for any damage that occurs to your land or water as a result of the entry or work performed during the entry. To obtain such compensation, you should contact the Greenfield District Real Estate Manager. His contact information is below. The Greenfield District Real Estate Manager can provide you with a form to request compensation for damages. Once you fill out this form, you can return it to the Greenfield District Real Estate Manager for consideration.

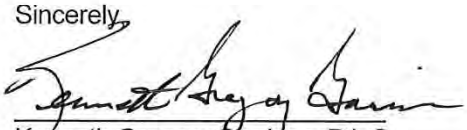
If you have any questions or concerns regarding our proposed survey work or schedule, please contact the Greenfield District Production Department. This contact information is as follows:

General Questions:
Greg Garrison, PS
Survey Manager
32 South Broadway
Greenfield, IN 46140
(317)467-3424

Real Estate Questions:
Greg Garrison, PLS, Real Estate Manager
32 South Broadway
Greenfield, IN 46140
(317)467-3424

Thank you in advance for your cooperation in this matter.

Sincerely,



Kenneth Gregory Garrison, P.L.S.
Greenfield District Survey Operations Manager
32 South Broadway Street
Greenfield, IN 46140
(317)467-3402

Appendix H
Air Quality

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2024 - 2028

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2024	2025	2026	2027	2028
Comments:Include DES 2001857, 2001868, 2002272, 2002317																	
Indiana Department of Transportation	43516 / 2002272	A 05	SR 3	Small Structure Replacement	Greenfield	0	NHPP	$1,436,974.90	Bridge Consulting	PE	$488,623.95	$122,155.98	$610,779.94				
Performance Measure Impacted: Bridge Condition																	
Location: 3.06 mi S of SR 244 (Rush/Decatur Co Line) to US 52 S junct																	
Comments:Adding PE phase in FY24																	
Indiana Department of Transportation	43516 / 2002272	M 62	SR 3	Small Structure Replacement	Greenfield	0	NHPP	$1,450,974.94	Bridge Consulting	PE	$0.00	$0.00	($610,779.94)	$610,779.94			
Performance Measure Impacted: Bridge Condition																	
Location: 3.06 mi S of SR 244 (Rush/Decatur Co Line) to US 52 S junct																	
Comments:Move FY24 PE $610,779.94 to FY2025																	
Indiana Department of Transportation	43545 / 2002071	Init.	SR 140	Bridge Replacement	Greenfield	0	STBG	$4,519,000.00	Bridge Construction	CN	$3,511,200.00	$877,800.00		$4,389,000.00			
Performance Measure Impacted: Bridge Condition																	
Location: over Big Blue River, 0.68 mi. S of US 40																	
Comments:Include DES 2002071																	
Indiana Department of Transportation	43545 / 2002071	A 08	SR 140	Bridge Replacement	Greenfield	0	STBG	$9,324,665.70	Bridge ROW	RW	$16,000.00	$4,000.00		$20,000.00			
Performance Measure Impacted: Bridge Condition																	
Location: over Big Blue River, 0.68 mi. S of US 40																	
Comments:Add RW to FY25																	
Indiana Department of Transportation	43545 / 2002071	M 45	SR 140	Bridge Replacement	Greenfield	0	STBG	$9,324,666.00	Bridge ROW	RW	$0.00	$0.00		($20,000.00)	$20,000.00		
Performance Measure Impacted: Bridge Condition																	
Location: over Big Blue River, 0.68 mi. S of US 40																	
Comments:Move RW from FY 25 to FY 26																	
Indiana Department of Transportation	43550 / 2001864	Init.	SR 44	HMA Overlay Minor Structural	Greenfield	.448	STBG	$781,000.00	Road Construction	CN	$408,000.00	$102,000.00		$0.00		$510,000.00	
Performance Measure Impacted: Pavement Condition																	
Location: 7.40 mi E of SR 3 (WCL Glenwood) to 7.84 mi E of SR 3 (ECL of Glenwood)																	
Comments:Include DES 2001864																	
Indiana Department of Transportation	43571 / 2000592	Init.	SR 244	HMA Overlay, Preventive Maintenance	Greenfield	.93	STBG	$793,000.00	Road Construction	CN	$384,000.00	$96,000.00	$0.00			$480,000.00	
Performance Measure Impacted: Pavement Condition																	
Location: SR 3 to 0.92 mi E of SR 3 (ECL Milroy)																	
Comments:Include DES 2000592																	
Rush County	43590 / 1802929	Init.	IR 4940	Bridge Replacement	Greenfield	.16	STBG	$2,155,000.00	Local Bridge Program	CN	$1,512,000.00	$0.00	$1,512,000.00				

Report Created:7/26/2024 2:01:27PM

*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

Appendix I
Additional Studies/Reports

Bridge Inspection Report

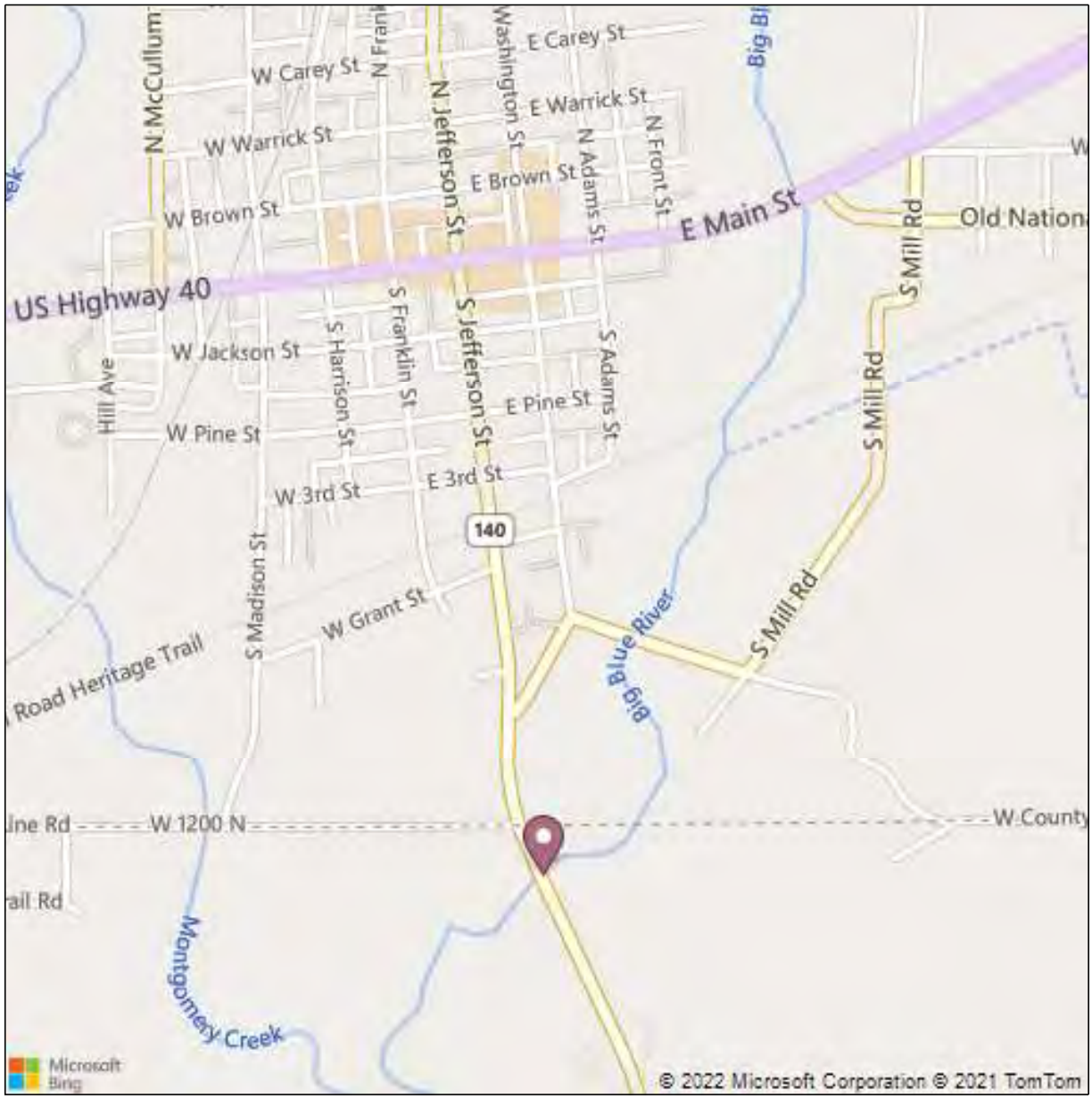
140-70-06039 B
SR 140
over
BIG BLUE RIVER

Inspection Date: 11/18/2022

Inspected By: James F. Mickler

Inspection Type(s): Routine

Bridge Inspection Report



Latitude: 39.78607

Longitude: -85.52455

General Notes:

***** Bridge on annual re-inspection frequency due to SERIOUS condition of DECK *****

Mudsill #1 is SOUTH.

NOTE: current bridge deck (built in 1970) is Post-Tensioned Longitudinally & Transversely (spans B-D).

The stone base of Abutments #2 & 5 are from the bridge built in 1902, by Henry & Rush Counties.
(See survey book about this bridge)

Bridge built in 1936 (140-70-1481) reused the STT & stone abutments from 1902 bridge, contract B-1364.

The Current bridge, built in 1970, again re-used the stone abutments (relabeled as Abutments #2 & 5); Added Reinforced Concrete Slab end spans; Widened with New Continuous Steel Beam Superstructure in spans B-D, Constructed New interior bents & Reconstructed the stone abutments), contract B-8227.

'A' Rehab (Overlaid & Added concrete barrier) in 1989, B-17964.

'B' Repair (Placed Scour Countermeasures) in 2008, B-27313.

DES. #2002411 - Programmed for Bridge Deck Patching in 2022 (not yet done, if it will be at all)

DES. #2002071 - Programmed for Bridge Replacement in 2025, contract B-43545.

Notified Bridge Asset Engineer on 12/12/22 about concerns of the bridge deck lasting until the scheduled 2025 Replacement project.

Deficiency Submitted: Cut trees hanging over East side of bridge at least 10’ back from bridge.

Condition Summary: Overall the bridge is in POOR condition. The Post-Tensioned Precast Deck panels are in SERIOUS condition with scattered delaminations, spalls & rebar exposed, and some full-depth holes at joints over Abutments #2 & 5 (post-tensioning strands heavily corroded or fractured in both directions at ends - panel fractured & deflects as cars cross in SB lane at Abut. #5). Copings have heavy spalls with rebar exposure typical below drains. The wearing surface is in FAIR condition with wide transverse reflective cracks and spalling areas at joints between precast deck panels. The Continuous Steel Beams are in FAIR condition with areas of heavy corrosion, pack rust and section loss. The substructure is in FAIR condituon with cracking and areas of heavy spalling & rebar exposed.

IDENTIFICATION

(1) STATE CODE:	185 - Indiana
(8) STRUCTURE:	026970
(5 A-B-C-D-E) INV. ROUTE:	1 - 3 - 1 - 00140 - 0
(2) HIGHWAY AGENCY DISTRICT:	03 - Greenfield
(3) COUNTY CODE:	070 - RUSH
(4) PLACE CODE:	00000 - N/A
(6) FEATURES INTERSECTED:	BIG BLUE RIVER
(7) FACILITY CARRIED:	SR 140
(9) LOCATION:	00.68 S US 40
(11) MILEPOINT:	0001.610
(12) BASE HIGHWAY NETWORK:	0
(13A) INVENTORY ROUTE:	
(13B) SUBROUTE NUMBER:	
(16) LATITUDE:	39.78607
(17) LONGITUDE:	-85.52455
(98) BORDER	
A) STATE NAME:	
B) PERCENT	%
(99) BORDER BRIDGE STRUCT. NO:	

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN:	
A) KIND OF MATERIAL/DESIGN:	4 - Steel continuous
B) TYPE OF DESIGN/CONSTR:	02 - Stringer/Multi-beam or Girder
(44) STRUCTURE TYPE, APPROACH SPANS:	
A) KIND OF MATERIAL/DESIGN:	1 - Concrete
B) TYPE OF DESIGN/CONSTR:	01 - Slab
(45) NUMBER OF SPANS IN MAIN UNIT:	003
(46) NUMBER OF APPROACH SPANS:	0002
(107) DECK STRUCTURE TYPE:	2 - Concrete Precast Panels
(108) WEARING SURFACE/PROT SYS:	
A) WEARING SURFACE:	3 - Latex Concrete or similar additive
B) DECK MEMBRANE:	0 - None
C) DECK PROTECTION:	0 - None

AGE OF SERVICE

(27) YEAR BUILT:	1902
(106) YEAR RECONSTRUCTED:	1989
(42) TYPE OF SERVICE:	
A) ON BRIDGE:	1 - Highway
B) UNDER BRIDGE:	5 - Waterway
(28) LANES:	
A) ON BRIDGE:	02
B) UNDER BRIDGE:	00
(29) AVERAGE DAILY TRAFFIC:	002305
(30) YEAR OF AVERAGE DAILY TRAFFIC:	2022
(109) AVERAGE DAILY TRUCK TRAFFIC:	03 %
(19) BYPASS DETOUR LENGTH:	008 MI

GEOMETRIC DATA

(48) LENGTH OF MAX SPAN:	00070.0	FT	(35) STRUCTURE FLARED:	0 - No flare	
(49) STRUCTURE LENGTH:	00241.5	FT	(10) INV RTE, MIN VERT CLEARANCE:	99.99	FT
(50) CURB/SIDEWALK WIDTHS:			(47) TOT HORIZ CLEARANCE:	036.0	FT
A) LEFT	00.0	FT	(53) VERT CLEAR OVER BR RDWY:	99.99	FT
B) RIGHT:	00.0	FT	(54) MIN VERTICAL UNDERCLEARANCE:		
(51) BRDG RDWY WIDTH CURB-TO-CURB:	036.0	FT	A) REFERENCE FEATURE:	N	
(52) DECK WIDTH, OUT-TO-OUT:	039.0	FT	B) MIN VERT UNDERCLEAR:	00.00	FT
(32) APPROACH ROADWAY	030.0	FT	(55) LATERAL UNDERCLEARANCE RIGHT:		
(33) BRIDGE MEDIAN:	0 - No median		A) REFERENCE FEATURE:	N	
			B) MIN LATERAL UNDERCLEAR:	000.0	FT
(34) SKEW:	00	DEG	(56) MIN LATERAL UNDERCLEAR ON LEFT:	000.0	FT

INSPECTIONS

(90) INSPECTION DATE:	11/18/2022	(91) DESIGNATED INSPECTION FREQUENCY:	12 MONTHS
(92) CRITICAL FEATURE INSPECTION:		(93) CRITICAL FEATURE INSPECTION DATE:	
A) FRACTURE CRITICAL REQUIRED/FREQUENCY:	N	A) FRACTURE CRITICAL DATE:	
B) UNDERWATER INSPECTION REQUIRED/FREQUENCY:	N	B) UNDERWATER INSP DATE:	
C) OTHER SPECIAL INSPECTION REQUIRED/FREQUENCY:	N	C) OTHER SPECIAL INSP DATE:	

CONDITION

(58) DECK:	3 - Serious Condition (primary structure affected)	(60) SUBSTRUCTURE:	5 - Fair Condition (minor section loss)
(58.01) WEARING SURFACE:	5 - Fair Condition	(61) CHANNEL/CHANNEL PROTECTION:	5 - Bank eroded.. major damage
(59) SUPERSTRUCTURE:	5 - Fair Condition (minor section loss)	(62) CULVERTS:	N - Not Applicable

CONDITION COMMENTS

(58) DECK: 3 - Serious Condition (primary structure affected)

Comments:

Deck (underside): longitudinally & transversely post-tensioned precast panels in Spans B, C, & D - minor spalls at panel joints, scattered delaminations, spalls & rebar exposed, heavy spalls with rebar exposure to copings below drains, all panel brackets are heavily corroded along top flanges of beams (most have fallen off & are lying under structure), some full-depth holes at joints over Abutments #2 & 5 (post-tensioning strands heavily corroded or fractured in both directions at ends - panel fractured & deflects as cars cross in SB lane at Abut. #5, spall with rebar exposed at East end of the joint over Abut. #2).
Concrete cast-in-place slabs in Spans A & E - some wet areas, rust-staining, cracking & efflorescence.

(58.01) WEARING SURFACE: 5 - Fair Condition

Comments:
Wearing surface: wide transverse reflective cracks at joints between precast deck panels in spans B, C & D - some spalling, crack sealing attempted; End spans - wide transverse cracks - esp. in Span A (~2' from transverse joint), numerous wide longitudinal & transverse cracks in span E.

(59) SUPERSTRUCTURE: 5 - Fair Condition (minor section loss)

Comments:
Approach Spans A & E are Concrete Slabs.
Spans B, C & D have 7 Continuous Steel Beams: fairly heavy corrosion typical along edges of bottom flanges; areas of section loss to bottom flanges of steel beams below Abutment 2 joint - esp. Beam #6; pack rust to bottom flanges of coping beams over Bent #4; heavy pack rust on top of beams has raised the deck off the beams - esp. at South end.

(60) SUBSTRUCTURE: 5 - Fair Condition (minor section loss)

Comments:
Abutments: areas of heavy spalling & rebar exposed, especially at ends.
Bent caps: cracking & areas of spalling with rebar exposed.

(61) CHANNEL/CHANNEL PROTECTION 5 - Bank eroded.. major damage

Comments:
Channel flows from East to West below the bridge.
Upstream channel: meandering with ~30' of movement to North; stream bends under structure; fairly heavy bank erosion with roots exposed and trees leaning typical.
Designed riprap placed at substructure units #2-5 in 2008.

(62) CULVERTS: N - Not Applicable

Comments:

LOAD RATING AND POSTING

(31) DESIGN LOAD:	5 - HS 20	(66) INVENTORY RATING:	1.15
(70) BRIDGE POSTING	5 - Equal to or above legal loads	(65) INVENTORY RATING METHOD:	8 - Load and Resistance Factor Rating (LRFR) rating report by rating factor (RF) method using HL-93 loadings.
(41) STRUCTURE OPEN/POSTED/CLOSED:	A - Open		
(64) OPERATING RATING:	1.495		
(63) OPERATING RATING METHOD:	8 - Load and Resistance Factor Rating (LRFR) rating report by rating factor (RF) method using HL-93 loadings.	(66B) INVENTORY RATING (H):	
		(66C) TONS POSTED :	
		(66D) DATE POSTED/CLOSED:	

APPRAISAL

SUFFICIENCY RATING:	81.2	(36) TRAFFIC SAFETY FEATURE:	
STATUS:	1	36A) BRIDGE RAILINGS:	1
(67) STRUCTURAL EVALUATION:	5	36B) TRANSITIONS:	0
(68) DECK GEOMETRY:	5	36C) APPROACH GUARDRAIL:	1
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL:	N	36D) APPROACH GUARDRAIL ENDS:	1

(71) WATERWAY ADEQUACY: 9 - Bridge Above Flood Water Elevations

Comments:
~1' Max. H.W. to N. Appr. P.G.

(72) APPROACH ROADWAY ALIGNMENT: 8 - Equal to present desirable criteria

Comments:

(113) SCOUR CRITICAL BRIDGES: 7 - Countermeasures installed to correct scour problem

Comments:
Contract B-27313, Scour Countermeasures were placed. Item 113A changed from 2 to 7 this date. Scour Review letter dated 9/25/2003.

Riprap placed @ Abut. #2 & #5, Bt. #3 & #4 under scour countermeasure contract B-27313. Scour has been previously noted under the upstream nose of the pile collar at Bent #4.

Q-100 scour calculations indicate that the scour depth can reach down to elevation 871.00'.

NOTE: the 1970 plans have all substructure units labeled form south to north

CLASSIFICATION

(20) TOLL:	3 - On Free Road	(21) MAINT. RESPONSIBILITY:	01 - State Highway Agency
(22) OWNER:	01 - State Highway Agency	(26) FUNCTIONAL CLASS OF INVENTORY RTE:	07 - Rural - Major Collector
(37) HISTORICAL SIGNIFICANCE:	5 - Not eligible	(100) STRAHNET HIGHWAY:	Not a STRAHNET route
(101) PARALLEL STRUCTURE:	N - No parallel structure	(102) DIRECTION OF TRAFFIC:	2-way traffic
(103) TEMPORARY STRUCTURE:		(104) HIGHWAY SYSTEM OF INVENTORY ROUTE:	0 - Structure/Route is NOT on NHS
(105) FEDERAL LANDS HIGHWAYS:	0-Not Applicable	(110) DESIGNATED NATIONAL NETWORK:	Inventory route not on network
(112) NBIS BRIDGE LENGTH:	Yes		

NAVIGATION DATA

(38) NAVIGATION CONTROL:	0 - No navigation control on waterway (bridge permit not required)	(39) NAVIGATION VERTICAL CLEAR:	000.0 FT
		(116) MINIMUM NAVIGATION VERT. CLEARANCE, VERT. LIFT BRIDGE:	FT
(111) PIER OR ABUTMENT PROTECTION:		(40) NAV HORIZONTAL CLEARANCE:	0000.0 FT

PROPOSED IMPROVEMENTS

(75A) TYPE OF WORK:		(95) ROADWAY IMPROVEMENT COST:	$ 000000
(75B) WORK DONE BY:		(96) TOTAL PROJECT COST:	$ 000000
(76) LENGTH OF IMPROVEMENT:	000000. FT 0	(97) YR OF IMPROVEMENT COST EST:	
(94) BRIDGE IMPROVEMENT COST:	$ 000000	(114) FUTURE AVG DAILY TRAFFIC:	002400
		(115) YR OF FUTURE ADT:	2041

Miscellaneous Asset Data

026970

Asset Management

Load Rating 2:

Has the dead load or the structural condition of the primary load carrying members changed since the last inspection? No

Extended Frequency: Submittal Date:

Inspector:

INDOT Reviewer:

This bridge has been accepted into the Extended Frequency Program. Approval Date:

Joints: ** Indicate location, type, and rating of lowest rated joint.*

Transverse North/East	O	3 - Very Poor Condition, leaking, punctures

Comments:

Type XJS at Abuts. #2 & 5 - heavy patching & full-depth holes

Terminal Joints: **Rating of lowest rated terminal joint.* N

Comments:

Concrete Slopewall: **Rating of lowest rated slopewall.* N

Comments:

Bearings: ** Indicate type, and rating of lowest rated bearing.*

1 - Steel	5

Comments:

Fairly heavy bearing corrosion is typical.

Approach Slabs: ** Indicate if present & condition rating.*

N - No Approach Slabs

Comments:

Paint: ** Indicate if paint present , year painted & condition rating.*

1 - Steel Beams	5 - Fair Condition – areas of light rust and minor peeling	2002

Comments:

Paint: areas of heavy corrosion to all elements.
Paint Color: Light Blue. Contract #: B-26136.

Endangered Species: ** If yes, add one photo to the dropdown field*

Bats: seen or heard under structure? * N - No evidence of bats

Birds/swallows/nests seen? Empty nests present? * N - No Birds and/or Nests Visi

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BRIDGE Culvert Geometry:

Barrel Length:

Height:

Width:

Inspector:	Mickler,James F.	**Structure Number:**	026970
Inspection Date:	11/18/2022	**Facility Carried:**	SR 140

Bridge Inspection Report

NBI Data come from National Inventory

NBI 113: Scour Critical Bridges 7

NBI 113a Scour Critical Bridges Comments

Contract B-27313, Scour Countermeasures were placed. Item 113A changed from 2 to 7 this date. Scour Review letter dated 9/25/2003.

Riprap placed @ Abut. #2 & #5, Bt. #3 & #4 under scour countermeasure contract B-27313. Scour has been previously noted under the upstream nose of the pile collar at Bent #4.

Q-100 scour calculations indicate that the scour depth can reach down to elevation 871.00'.

NOTE: the 1970 plans have all substructure units labeled form south to north

To Be Completed by Hydraulics

Scour Analysis Status	7-Bridge programmed to be rehabbed or replaced.	Scour Analysis Date	Scour Analysis Determination

Hydraulics Comments

To Be Completed by Bridge Inspection

Scour Critical Safety Status

Date of Counter Measure Placed or Field Verified

Bridge Inspectoin Comments

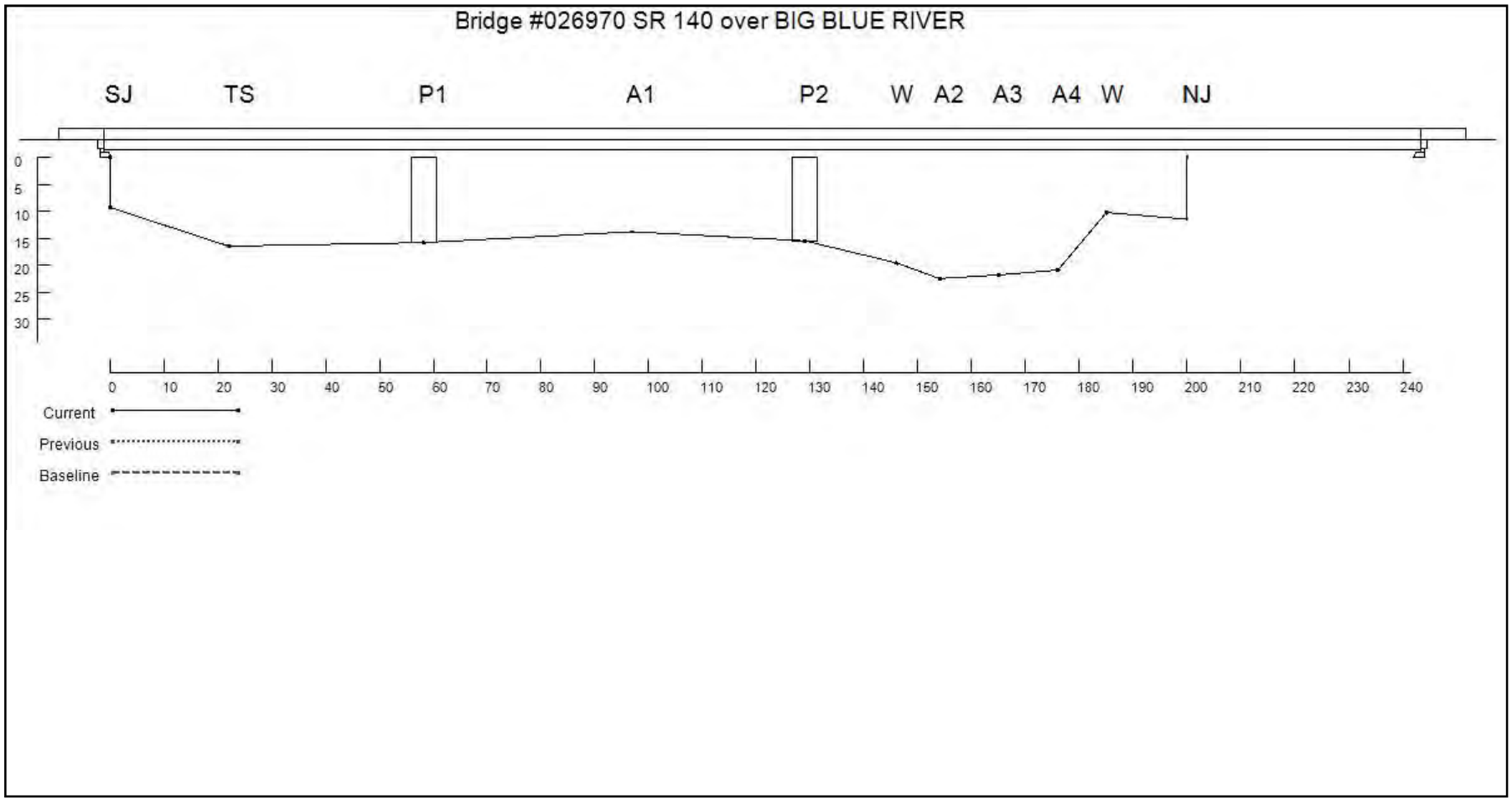
Scour Delineators installed

Inspector:	Mickler,James F.	**Structure Number:**	026970
Inspection Date:	11/18/2022	**Facility Carried:**	SR 140

Bridge Inspection Report

Channel Measurement

Date of Channel Measurements:	12/29/2020	Number of Fixed Objects in Channel:	2
Distance Measured From:		Water Level:	
Depth Measured From:		High Water Mark:	
Number of Measurement Points Taken:	13	Measurement Type:	Depth from Reference Point



LOAD RATING - BRADIN

Load Rating Date: 10-SEP-08

National Bridge Inventory (NBI):

(65) INVENTORY RATING METHOD: 8

(66) INVENTORY RATING: 1.15

(63) OPERATING RATING METHOD: 8

(64) OPERATING RATING: 1.495

(31) DESIGN LOAD: 5

(70) BRIDGE POSTING: 5

(41) STRUCTURE OPEN/POSTED/CLOSED: A

(66C) TONS POSTED:

(66D) DATE POSTED/CLOSED:

Posting Configurations:

Emergency Vehicles:

EV2: LEGAL RF: 2.037

EV3: LEGAL RF: 1.411

2-Axles:

H20-44: LEGAL RF: 2.265

ALTERNATE MILITARY: LEGAL RF: 1.878

3-Axles:

HS20: LEGAL RF: 1.419

AASHTO TYPE 3: LEGAL RF: 2.147

4-Axles:

SU4: LEGAL RF: 1.893

TOLL ROAD LOADING NO. 2:
ROUTINE PERMIT RF:

5-Axles:

AASHTO TYPE 3S2: LEGAL RF: 2.107

SU5: LEGAL RF: 1.724

TOLL ROAD LOADING NO. 1: ROUTINE PERMIT RF:

6+-Axles:

AASHTO TYPE 3-3: LEGAL RF: 2.439

LANE TYPE: LEGAL RF: 1.888

SU6: LEGAL RF: 1.562

SPECIAL TOLL ROAD TRUCK: ROUTINE PERMIT RF:

SU7: LEGAL RF: 1.456

MICHIGAN TRAIN TRUCK NO. 5: ROUTINE PERMIT RF:

MICHIGAN TRAIN TRUCK NO. 8: ROUTINE PERMIT RF:

Other Configurations:

H20-44: DESIGN RF: 2.168

NRL: LEGAL RF: 1.389

SUPERLOAD-11 AXLES: SPECIAL PERMIT RF: 1.436

SUPERLOAD-13 AXLES: SPECIAL PERMIT RF: 1.484

SUPERLOAD-14 AXLES: SPECIAL PERMIT RF: 1.243

SUPERLOAD-19 AXLES (152.5T): SPECIAL PERMIT RF: 1.52

SUPERLOAD-19 AXLES (240.045T): SPECIAL PERMIT RF: 1.339

Date Reported: 12/12/2022

Priority: Green - 3

Work Code: Brush Cutting / Herbicide Spray

Deficiency Description:
Cut trees hanging over East side of bridge at least 10’ back from bridge.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open

PHOTO 1 Description Trees growing over East side of bridge

INDOT BRIDGE INSPECTION DIVISION

SCOUR PLAN OF ACTION

GENERAL INFORMATION

District: 03

NBI Number: **026970** **Facility Carried :** **SR 140**

Feature Intersected: **BIG BLUE RIVER** **Location:** **00.68 S US 40**

SCOUR STATUS SUMMARY

Scour Critical Rating: **7** **Substructure Rating:** **5** **Channel and Channel Protection Rating:** **5**

Culvert Rating: **N** **Waterway Adequacy Appraisal:** **9**

Scour/Flood History:

INITIAL SCOUR INSPECTION

Bridge Scour Critical Components:

Trigger:

Initial Scour Inspection following Trigger(Date/Findings):

MONITORING PLAN

Monitoring Required after Initial Scour Inspection (Y/N):

Reason for Bridge Monitoring:

If monitoring is required after initial inspection, the Bridge Scour Monitoring Log shall be

From: Lawson, Timothy <TLawson1@indot.IN.gov>
Sent: Thursday, March 7, 2024 10:25 AM
To: April C. Arroyo-Monroe <april@kaskaskiaeng.com>
Cc: Ahern, Sami <SAhern@indot.IN.gov>
Subject: Utility Coordination Question Re: 2002071 [19-1164.04]

April,

As Sami indicated we have 3 utilities in the project limits area electric, sanitary sewer and fiber. There is no water or gas in the project limits. We have preliminary field check notes if you need that.

Thanks,

Tim Lawson P.E.
Utilities Administrator
Division of Utilities and Railroad
100 North Senate Ave, Room N758-UT/RR
Indianapolis, IN 46204
Office: (317)232-5007
Email: tlawson1@indot.IN.gov

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated March 2022)

ProjectNumber	SubProjectCode	County	Property
1800294	1800294	Henry	Sunset Park
1800393	1800393	Henry	Dietrich Memorial Park

*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

From: Fair, Terri
To: April C. Arroyo-Monroe
Subject: EJ Analysis Des 2002071 [19-1164.04]
Date: Thursday, May 2, 2024 5:21:10 PM
Attachments:

INDOT-Environmental Services Division (ESD) has reviewed the project information along with the Environmental Justice (EJ) Analysis for the above referenced project. With the information provided, the project may require right-of-way, requires no relocations, and would not disrupt community cohesion or create a physical barrier. With the information provided, INDOT-ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low-income populations of EJ concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a. No further EJ Analysis is required.

Figure 1: Analysis of Census Tracts in Rush and Henry Counties, Indiana

				COC-H	AC-H	COC-R	AC-R	COC-T	AC-T
	Low Income			**Henry County, Indiana**	**Census Tract 9767; Henry County; Indiana**	**Rush County, Indiana**	**Census Tract 9742; Rush County; Indiana**	**Henry + Rush County**	**Census Tract 9767, HC + Census Tract 9742, RC**
B17001001	Population whom poverty status is determined: Total			45,723	4,581	16,423	3,442	62,146	8,023
B17001002	Population whom poverty status is determined; Income in past 12 months below poverty level			6,271	1,077	1,923	446	8,194	1,523
	Calculations								
	Percentage Low-Income			13.72%	23.51%	11.71%	12.96%	13.19%	18.98%
	125% of COC (1.25 * % of low-income)			6.86%	AC > 125% COC	14.64%	AC < 125% COC	16.48%	AC > 125% COC
	> 50% of the population				No		No		No
	Potential Low-Income EJ Impacts				**Yes**		No		**Yes**
	Non-White/Minority **(White = Not Hispanic or Latino: White only)*								
B03002001	Total population:	Total		48,913	4,619	16,716	3,502	65,629	69,131
B03002002	Total population:	Not Hispanic or Latino		47,898	4,585	16,413	3,502	64,311	67,813
B03002003	Total population:	Not Hispanic or Latino:	White alone	45,358	4,534	15,874	3,457	61,232	64,689
B03002004	Total population:	Not Hispanic or Latino:	Black or African American alone	1,153	0	96	0	1,249	1,249
B03002005	Total population:	Not Hispanic or Latino:	American Indian or Alaska Native alone	35	0	0	0	35	35
B03002006	Total population:	Not Hispanic or Latino:	Asian alone	234	0	11	0	245	245
B03002007	Total population:	Not Hispanic or Latino:	Native Hawaiian or Other Pacific Islander alone	0	0	0	0	0	0
B03002008	Total population:	Not Hispanic or Latino:	Some other race alone	97	0	48	0	145	145
B03002009	Total population:	Not Hispanic or Latino:	Two or more races	1,021	51	384	45	1,405	1,450
B03002010	Total population:	Hispanic or Latino		1,015	34	303	0	1,318	1,318
B03002011	Total population:	Hispanic or Latino:	White alone	418	3	277	0	695	695
B03002012	Total population:	Hispanic or Latino:	Black or African American alone	36	0	0	0	36	36
B03002013	Total population:	Hispanic or Latino:	American Indian or Alaska Native alone	29	17	0	0	29	29
B03002014	Total population:	Hispanic or Latino:	Asian alone	9	0	0	0	9	9
B03002015	Total population:	Hispanic or Latino:	Native Hawaiian or Other Pacific Islander alone	0	0	0	0	0	0
B03002016	Total population:	Hispanic or Latino:	Some other race alone	259	14	4	0	263	263
B03002017	Total population:	Hispanic or Latino:	Two or more races	264	0	22	0	286	286
	Calculations								
	Number Non-White/Minority			3,555	85	842	45	4,397	4,442
	Percent Non-White/Minority			7.27%	1.84%	5.04%	1.28%	6.70%	6.43%
	125% of COC			9.09%	AC < 125% COC	6.30%	AC < 125% COC	8.37%	AC < 125% COC
	> 50% of the population				No		No		No
	Potential Minority EJ Impact				No		No		No

Poverty Status in the Past 12 Months by Sex by Age

United States® Census Bureau

Note: The table shown may have been modified by user selections. Some information may be missing.

DATA NOTES	
TABLE ID:	B17001
SURVEY/PROGRAM:	American Community Survey
VINTAGE:	2022
DATASET:	ACSDT5Y2022
PRODUCT:	ACS 5-Year Estimates Detailed Tables
UNIVERSE:	Population for whom poverty status is determined
MLA:	U.S. Census Bureau. "Poverty Status in the Past 12 Months by Sex by Age." American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B17001, 2022, https://data.census.gov/table/ACSDT5Y2022.B17001?q=B17001&g=1400000US18065976700,18139974200. Accessed on
FTP URL:	None
API URL:	https://api.census.gov/data/2022/acs/acs5
USER SELECTIONS	
TABLES	B17001
GEOS	Census Tract 9767; Henry County; Indiana; Census Tract 9742; Rush County; Indiana
EXCLUDED COLUMNS	None
APPLIED FILTERS	None
APPLIED SORTS	None
PIVOT & GROUPING	
PIVOT COLUMNS	None
PIVOT MODE	Off
ROW GROUPS	None
VALUE COLUMNS	None
WEB ADDRESS	https://data.census.gov/table/ACSDT5Y2022.B17001?q=B17001&g=1400000US18065976700,18139974200

Table: ACSDT5Y2022.B17001

	Henry County, Indiana (CO-H)		Rush County, Indiana (CO-R)	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total:	45,723	±77	16,423	±89
Income in the past 12 months below poverty level:	6,271	±792	1,923	±427
Male:	3,162	±471	855	±247
Under 5 years	356	±149	48	±45
5 years	16	±18	0	±20
6 to 11 years	293	±118	110	±64
12 to 14 years	230	±101	22	±24
15 years	23	±19	27	±34
16 and 17 years	90	±54	64	±54
18 to 24 years	318	±118	98	±78
25 to 34 years	283	±157	160	±111
35 to 44 years	498	±145	88	±47
45 to 54 years	503	±217	56	±38
55 to 64 years	313	±98	122	±67
65 to 74 years	129	±62	12	±15
75 years and over	110	±48	48	±51
Female:	3,109	±439	1,068	±240
Under 5 years	174	±88	73	±60
5 years	92	±67	3	±6
6 to 11 years	281	±122	27	±27
12 to 14 years	169	±81	14	±21
15 years	69	±40	82	±67
16 and 17 years	71	±38	0	±20
18 to 24 years	312	±109	109	±75
25 to 34 years	382	±114	128	±72
35 to 44 years	323	±103	207	±94
45 to 54 years	337	±106	85	±54
55 to 64 years	430	±100	110	±54
65 to 74 years	321	±94	99	±61
75 years and over	148	±64	131	±62

Table: ACSDT5Y2022.B17001

	Census Tract 9767; Henry County; Indiana (AC-H)		Census Tract 9742; Rush County; Indiana (AC-R)	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total:	4,581	±219	3,442	±393
Income in the past 12 months below poverty level:	1,077	±435	446	±156
Male:	623	±246	245	±97
Under 5 years	158	±115	18	±21
5 years	3	±5	0	±13
6 to 11 years	7	±7	14	±15
12 to 14 years	36	±34	11	±20
15 years	13	±15	0	±13
16 and 17 years	31	±41	33	±47
18 to 24 years	115	±70	9	±13
25 to 34 years	0	±13	43	±30
35 to 44 years	112	±84	60	±39
45 to 54 years	64	±61	3	±6
55 to 64 years	58	±42	18	±19
65 to 74 years	14	±18	3	±5
75 years and over	12	±19	33	±44
Female:	454	±213	201	±96
Under 5 years	11	±16	0	±13
5 years	33	±41	3	±6
6 to 11 years	77	±83	0	±13
12 to 14 years	45	±42	14	±21
15 years	0	±13	12	±22
16 and 17 years	7	±11	0	±13
18 to 24 years	80	±55	11	±20
25 to 34 years	43	±31	52	±44
35 to 44 years	50	±43	21	±21
45 to 54 years	25	±24	4	±6
55 to 64 years	37	±29	26	±20
65 to 74 years	39	±42	19	±23
75 years and over	7	±11	39	±33

Hispanic or Latino Origin by Race

United States® Census Bureau

Note: The table shown may have been modified by user selections. Some information may be missing.

DATA NOTES	
TABLE ID:	B03002
SURVEY/PROGRAM:	American Community Survey
VINTAGE:	2022
DATASET:	ACSDT5Y2022
PRODUCT:	ACS 5-Year Estimates Detailed Tables
UNIVERSE:	Total population
MLA:	U.S. Census Bureau. "Hispanic or Latino Origin by Race." American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B03002, 2022, https://data.census.gov/table/ACSDT5Y2022.B03002?q=B03002&g=050XX00US18065,18139. Accessed on March 26, 2024.
FTP URL:	None
API URL:	https://api.census.gov/data/2022/acs/acs5
USER SELECTIONS	
TABLES	B03002
GEOS	Henry County, Indiana; Rush County, Indiana
EXCLUDED COLUMNS	None
APPLIED FILTERS	None
APPLIED SORTS	None
PIVOT & GROUPING	
PIVOT COLUMNS	None
PIVOT MODE	Off
ROW GROUPS	None
VALUE COLUMNS	None
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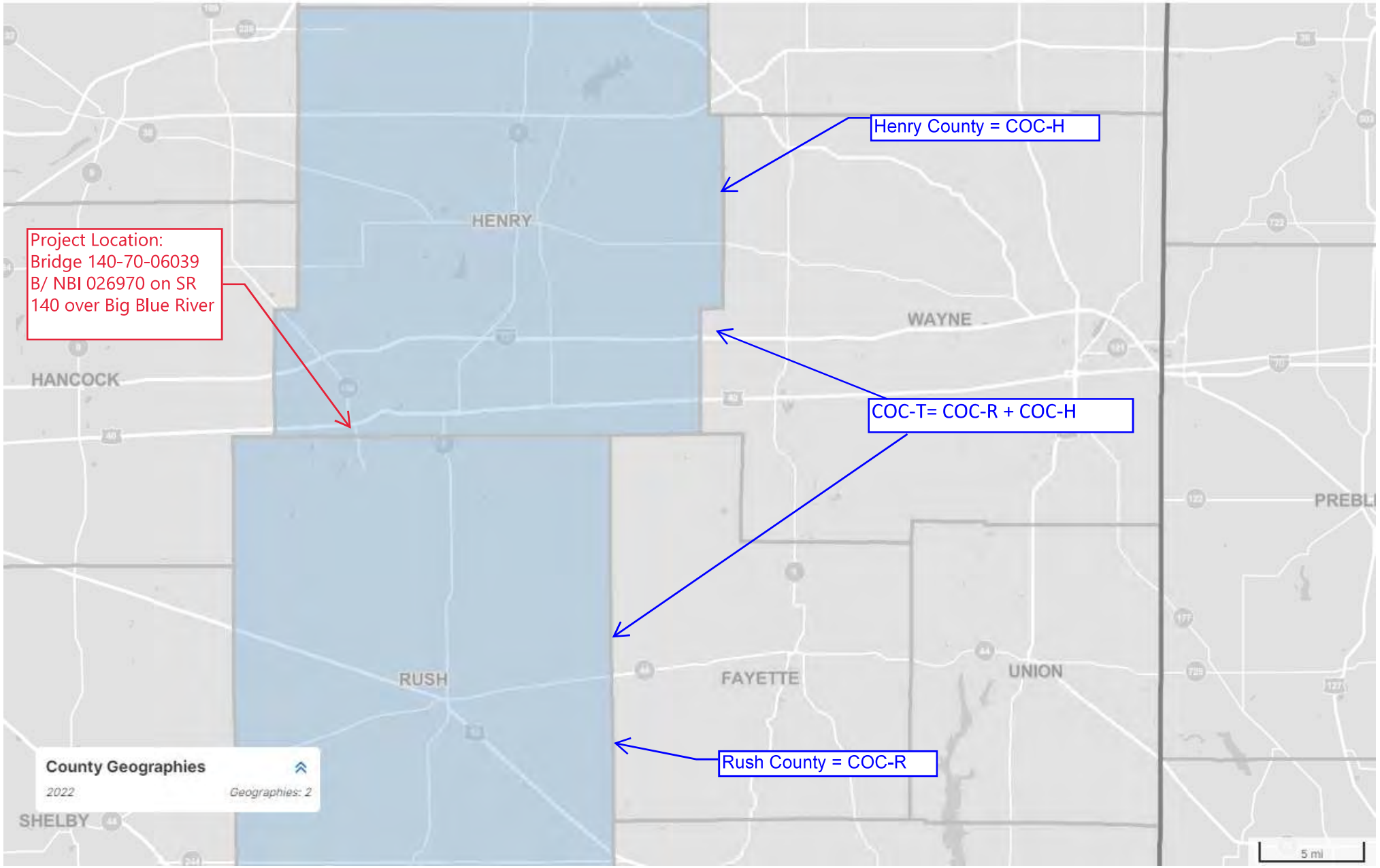
Table: ACSDT5Y2022.B03002

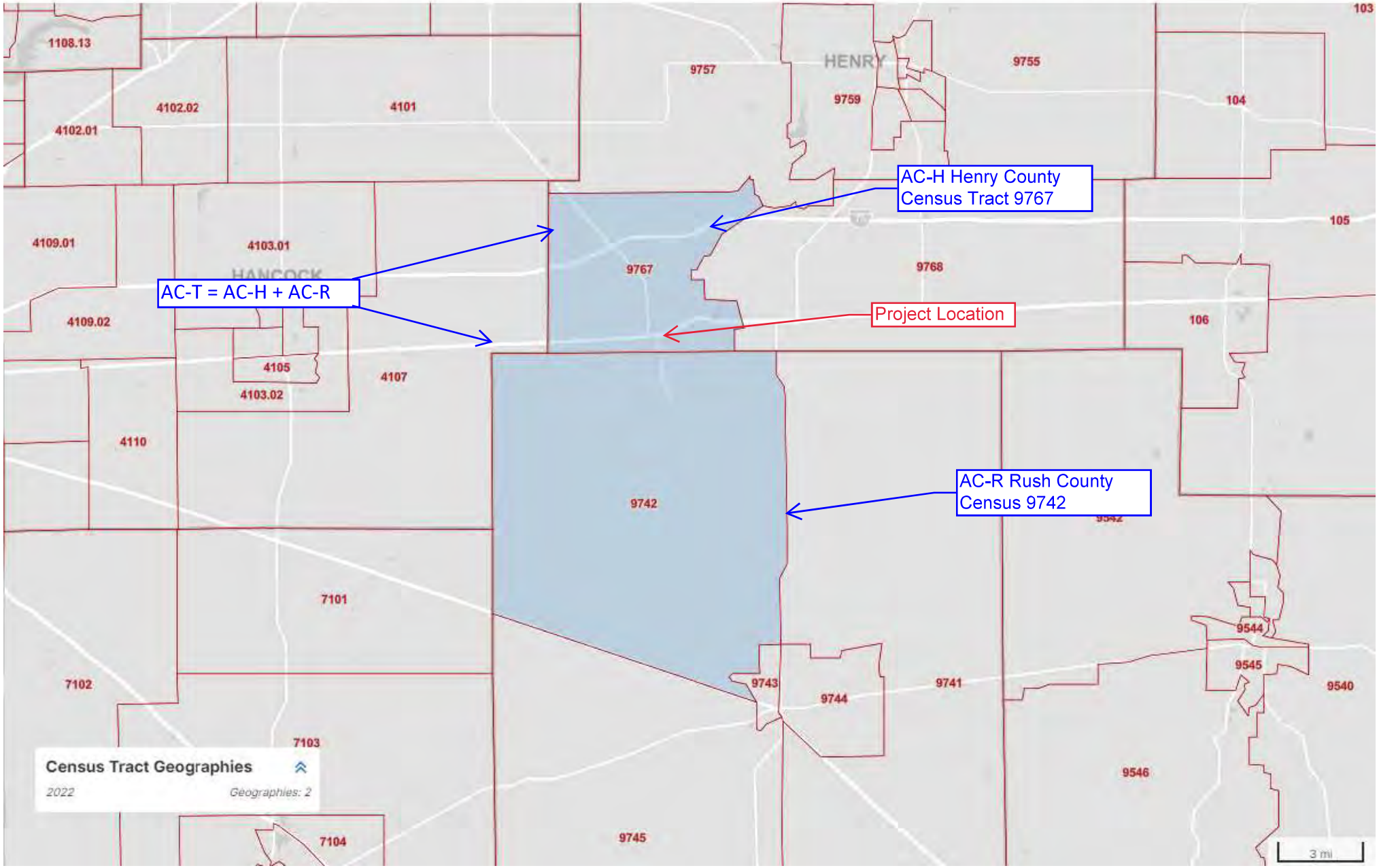
	Henry County, Indiana (CO-H)		Rush County, Indiana (CO-R)	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total:	48,913	*****	16,716	*****
Not Hispanic or Latino:	47,898	*****	16,413	*****
White alone	45,358	±107	15,874	±76
Black or African American alone	1,153	±119	96	±95
American Indian and Alaska Native alone	35	±28	0	±20
Asian alone	234	±68	11	±23
Native Hawaiian and Other Pacific Islander alone	0	±27	0	±20
Some other race alone	97	±86	48	±67
Two or more races:	1,021	±152	384	±105
Hispanic or Latino:	1,015	*****	303	*****
White alone	418	±108	277	±39
Black or African American alone	36	±29	0	±20
American Indian and Alaska Native alone	29	±34	0	±20
Asian alone	9	±15	0	±20
Native Hawaiian and Other Pacific Islander alone	0	±27	0	±20
Some other race alone	259	±128	4	±12
Two or more races:	264	±102	22	±36

Table: ACSDT5Y2022.B03002

	Census Tract 9767; Henry County; Indiana (AC-H)		Census Tract 9742; Rush County; Indiana (AC-R)	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total:	4,619	±220	3,502	±392
Not Hispanic or Latino:	4,585	±224	3,502	±392
White alone	4,534	±229	3,457	±388
Black or African American alone	0	±13	0	±13
American Indian and Alaska Native alone	0	±13	0	±13
Asian alone	0	±13	0	±13
Native Hawaiian and Other Pacific Islander alone	0	±13	0	±13
Some other race alone	0	±13	0	±13
Two or more races:	51	±36	45	±48
Hispanic or Latino:	34	±39	0	±13
White alone	3	±6	0	±13
Black or African American alone	0	±13	0	±13
American Indian and Alaska Native alone	17	±30	0	±13
Asian alone	0	±13	0	±13
Native Hawaiian and Other Pacific Islander alone	0	±13	0	±13
Some other race alone	14	±22	0	±13
Two or more races:	0	±13	0	±13


Henry County = COC-H
Project Location:
Bridge 140-70-06039
B/ NBI 026970 on SR
140 over Big Blue River
HENRY
WAYNE
HANCOCK
COC-T= COC-R + COC-H
RUSH
FAYETTE
UNION
Rush County = COC-R
County Geographies
2022
Geographies: 2
SHELBY
5 mi

AC Census Tract Henry Co 9767 Rush Co 9742 Des 2002071



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758 - Hydraulics
Indianapolis, Indiana 46204

Eric Holcomb, Governor
Michael Smith, Commissioner

October 31, 2023

TO: Mark Swiderski
INDOT Bridge Design

FROM: Fred S. Berry, P.E.
Hydraulics Engineer

SUBJECT: HYDRAULIC LETTER FOR BRIDGES
New Structure Number: TBD
Old Structure Number: 140-70-06039 B
Location: 0.68 Miles South of US 40
Des. #: 2002071
Crossing: SR 140 over Big Blue River
Consultant: In House
SPMS Type of Work: Replacement

ANALYSIS: Fred S. Berry, P.E.
INDOT Hydraulics Engineer

REVIEWER: Eric J Moster, P.E.
INDOT Sr Hydraulics Engineer

Drainage Area	= 134.1	sq. mi.
Q_{100} (AEP 1%)	= 8,800	cfs
Q_{500} (AEP 0.2%)	= 10,000	cfs
Elevation @ Q_{100}	= 891.46	ft.

IDNR CIF Permit Needed (Y/N): Y
Legal Drain (Y/N): N

Existing Conditions:

2 – 19.5 ft, 2 – 70 ft, and 1 – 60 ft spans, Sloping abutments, Steel Bridge

Q_{100} (AEP 1%) Headwater Elevation	= 894.01	ft.
Backwater	= 1.99 ft.	
Velocity @ Q_{100} (AEP 1%)	= 13.48	ft./s.
Waterway Opening Below Q_{100} (AEP 1%) Elevation (Str.)	= 1,371.1	sq. ft.
Road Overflow Waterway Area	= 0.00	sq. ft.
Low Structure Elevation	= 892.73	ft.
Skew*	= 25.0	deg.

*Existing Piers are not skewed in direction of flow

Proposed Conditions:

2 – 78.0 ft, 1 – 104.0 ft spans, Sloping Abutments, Concrete Bulb-Tee Beam Bridge

Q_{100} (AEP 1%) Headwater Elevation	= 892.36	ft.
Backwater	= 0.71	ft.
Velocity @ Q_{100} (AEP 1%)	= 5.11	ft./s.
Waterway Opening Below Q_{100} (AEP 1%) Elevation (Str.)	= 1,611.8	sq. ft.
Road Overflow Waterway Area	= 0.00	sq. ft.
Minimum Low Structure Elevation	= 893.49	ft.
Skew	= 25.0	deg.

Q_{100} (AEP 1%) Contraction Scour	= 6.98	ft.
Q_{100} (AEP 1%) Total Scour	= 14.18	ft.
Q_{100} (AEP 1%) Low Scour Elevation	= 865.31	ft.
Q_{100} (AEP 1%) Max Velocity	= 6.72	ft /s.
Q_{500} (AEP 0.2%) Elevation	= 891.89	ft.
Q_{500} (AEP 0.2%) Contraction Scour	= 7.84	ft.
Q_{500} (AEP 0.2%) Total Scour	= 15.04	ft.
Q_{500} (AEP 0.2%) Low Scour Elevation	= 864.45	ft.
Q_{500} (AEP 0.2%) Max Velocity	= 7.15	ft./s.

Based on an existing flowline elevation of 879.49 feet from best available data.

The existing structure has a total opening span of 236 feet, with five spans. Big Blue River flows under the bridge and crosses SR 140 at a 25-degree angle.

The application of riprap should be placed on the abutment spill slopes per IDM Fig. 203-3B. Per the calculated Q100 velocities revetment riprap should be applied to the spill slopes. Because the bridge is located a bend in the channel, this channel appears to have the ability to migrate, and velocities are typically higher at outside bends; therefore, it is recommended that the placement of abutment riprap be upgraded to Class 1 riprap at the spill slopes instead of revetment for this structure.

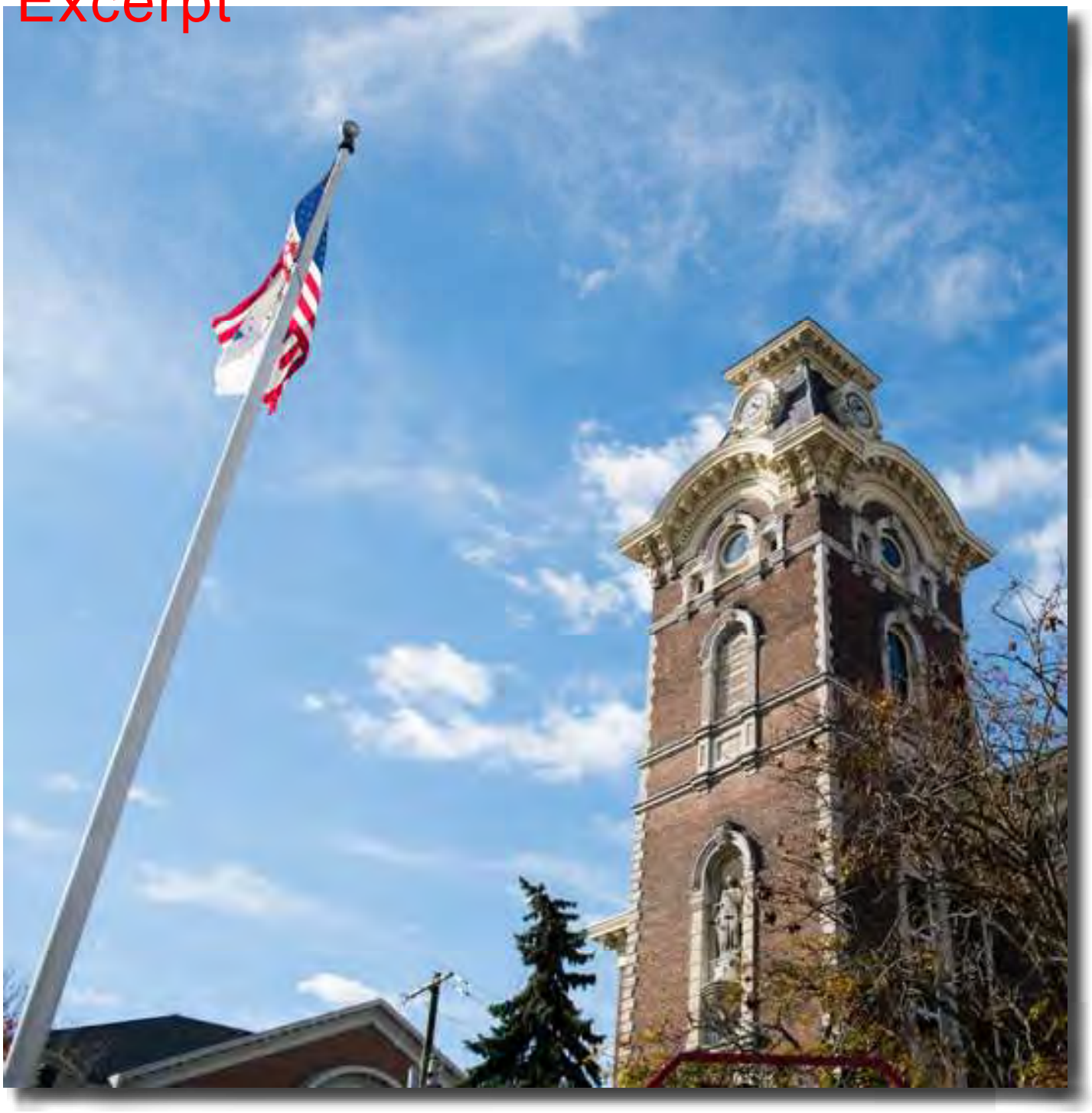
As pertains to this memo, the minimal required waterway opening and structure span are based on hydraulics geometry that is perpendicular to the flow. The total spans provided in this memo are measured parallel to the roadway. The vertical roadway alignment should have edge of travel lanes that are above the proposed headwater elevation throughout the entire floodplain.

A temporary runaround structure will be required for this bridge replacement. The structure should have a total span of 240 feet. The low structure elevation should be no lower than 3.5 feet below the crown of road elevation of the TRR profile in the Stage 1 plans for this project. 1,120 square feet of gross waterway area below the Q100 elevation perpendicular to the flow of the stream

If you have any questions or comments, please contact me at emoster@indot.in.gov.

cc: file

Excerpt



Comprehensive Plan

Henry County, Indiana

RESOLUTION ___, 2018 - 06-13(01R)

A RESOLUTION APPROVING COMPREHENSIVE PLAN

WHEREAS, the Henry County Planning Commission ("Planning Commission") coordinated and directed the preparation of a new Comprehensive Plan by the consultant, American Structure Point, Inc., in accordance with the provisions of Indiana Code §36-7-4-500, *et seq.*; and,

WHEREAS, on January 18, 2018, the Planning Commission held a public hearing to consider the adoption of a new and amended Comprehensive Plan for the County; and,

WHEREAS, on February 18, 2018, the Henry County Planning Commission certified a new Comprehensive Plan for consideration by the Board of Commissioners; and,

WHEREAS, on March 28, 2018, the Board of Commissioners of Henry County adopted a Resolution Amending the Comprehensive Plan Certified by the Henry County Planning Commission; and,

WHEREAS, on May 17, 2018, the Planning Commission received and reviewed the Board of Commissioner's proposed amendments to the Certified Plan and voted to approve the Board of Commissioner's amendments to the Certified Plan; and,

WHEREAS, the Board of Commissioners wishes to approve the Comprehensive Plan after receiving the favorable recommendation from the Planning Commission.

NOW THEREFORE BE IT RESOLVED that the document attached to this resolution as Exhibit "A" is hereby approved and made the Comprehensive Plan for Henry County, Indiana.

All of which is resolved this 13th day of June, 2018.

RECEIVED
JUN 13 2018
BOARD OF HENRY
COUNTY COMMISSIONERS

BOARD OF COMMISSIONERS
HENRY COUNTY, INDIANA

Bruce (Butch) Baker, President

Kim Cronk

Ed Yanos

Attest:

Patricia A. French

201803723 MISC $0.00
06/21/2018 08:11:15A 169 PGS
Linda C. Winchester
Henry County Recorder IN
Recorded as Presented

Contents

WELCOME HOME

The Henry County Planning Commission is pleased to present our recommendations for a new Comprehensive Plan for the County. This Comprehensive Plan represents hours of work by this Commission and our consultants as well as substantial input from interested members of the public.

We believe adopting this Comprehensive Plan will provide a forward-thinking road map which will guide policy decisions as well as both public sector and private sector development for years to come. We also believe that the implementation of this Plan could well encourage private sector investment as it provides some sense of certainty as to how, where and what kind of growth is encouraged and endorsed by Henry County.

This Comprehensive Plan represents our proactive planning for the future growth of our County and offers a clarity of vision that protects our County from haphazard development. We owe this guidance to future generations of Henry County residents.

The Planning Commission and I look forward to working with the County Commissioners to see this plan through.

Steve Rust
President
Henry County Planning Commission

Summary

The key takeaways from the planning process and resulting plan are:

1. Henry County is seeking a paradigm shift in both the categorization/classification and use/development of agricultural land.
2. Proactively plan for the county's existing and proposed interstate interchanges, while addressing existing public safety concerns at some of the county's existing roadway intersections.
3. Henry County seeks for the future land use and transportation plan to dictate where future water and sewer systems can go, rather than development dictating where centralize water and sewer systems are needed.

Use this section when describing the key takeaways and collective approach to planning for future growth and development across Henry County.

The larger county's collective approach to planning and zoning is to approach issues and opportunities with a growth-based decision making perspective, as opposed to a fear-based decision making perspective. What that means is that local decision making should:

- Be proactive, rather than reactive;
- Be driven by the need to improve upon existing conditions, rather than to succumb to the scarcities that are inherent in any society;
- Be focused on the future, rather than maintaining the status quo;
- More often than not be uncomfortable
- Approach solutions to problems with a both: and mindset, rather than an either: or mindset;
- Seek solutions that bind the rural, unincorporated parts and urban, incorporated parts of the county, rather than pit rural against urban, or vice versa; and
- **Above all else, be decisive.**

Purpose // Intent

What is a comprehensive plan? Communities are shaped by a variety of social, physical, environmental, and economic factors.

A comprehensive plan is the most common approach for addressing nearly all of the interrelated aspects of the built environment. The topics covered herein include: land use planning, housing and neighborhood revitalization, parks and recreation, environmental and natural systems, transportation and utility infrastructure, economic development, education and workforce development, and some community services.

A comprehensive plan is not a set of land use regulations, an ordinance, or a rezoning of someone's property. Nor is it the only contributing factor when local and appointed officials and staff consider development projects or public investments.

How to Use This Plan

This plan is intended to be a strategic guide for effective decision-making in both private development projects and investments in public infrastructure and the delivery of services. It should serve as a reference document for anyone -- property owners, developers, lenders, elected and appointed officials, and county staff -- looking to inform local policy, land use, transportation, and other

This plan is intended to be a strategic guide for effective decision-making in both private development projects and investments in public infrastructure and the delivery of public services.

Use this section to determine if and when the contents of this plan should apply.

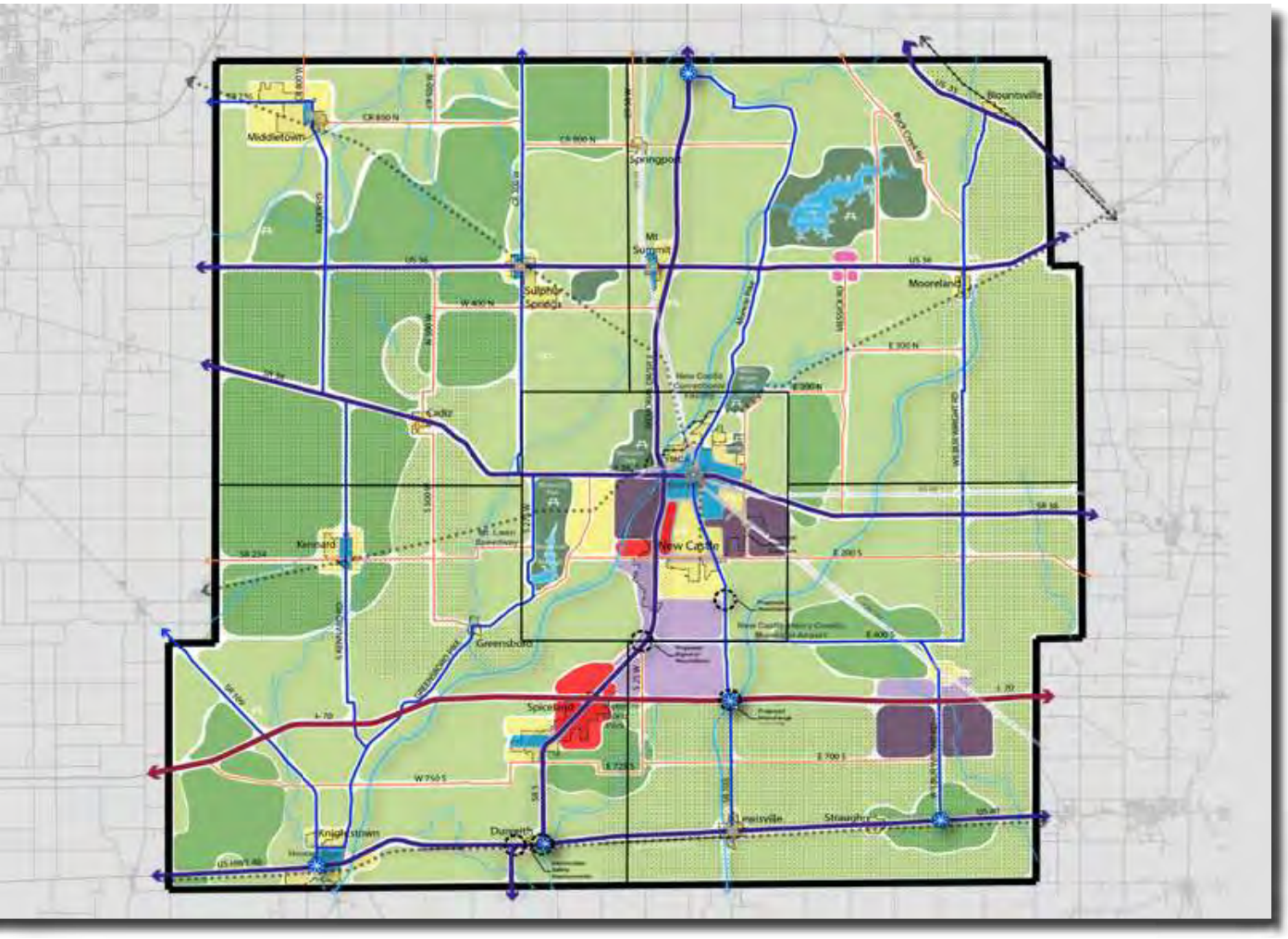
infrastructure investments over the next 25 to 30 years. Particular attention should be given to:

- Preserving and enhancing the local character
- Shaping how the community changes over time
- Promoting the orderly development and redevelopment of the county
- Improving the quality of life of residents
- Assisting local governments in making land use decisions, especially as it relates to the effective and efficient delivery of public services, such as roads and utilities
- Coordinating development and future capital expenditures within and between agencies and departments
- Improving local conditions to attract more private investment
- Avoiding costly mitigation of poorly planned developments
- Minimizing the number of instances where it isn't clear what the desired outcomes ought to be – given that there is both a vision and a plan
- Instilling in the general public that there are processes in place to protect the long-term vitality of the community, and that the processes that are used by local decision makers work

Updating the Plan

The following measures should be taken to ensure that the recommended strategies and action steps continue to move the community toward its vision; but also that the plan continues to accurately reflect the community's collective vision and values over time.

1. Prepare an annual report that highlights how the plan was used and the effectiveness of the contents, paying particular attention to the implications of how one part of the plan affects or otherwise relates to another.
2. Establish a five-year review and update process by which to regularly examine and revise the contents of the plan. Of particular importance are: updates to the socio-demographic information, making sure that each of the policy objectives identified are still relevant; making use of any newly defined best practice in land use or transportation planning, or zoning; or simply aligning the content of the plan with any changes to the local regulatory environment.
3. Establish a community engagement process, complete with inter-local cooperation, by which to complete the first two measures.



Future Land Use & Transportation Map

- County Boundary
- Municipal Boundary
- City or Village Center
- Railroad
- Existing Trail
- Proposed Trail
- Intersection Improvement
- Principle Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Waterway
- 100-yr Floodplain
- Major Waterbody
- Parks, Recreation, Open Space
- Prime Agricultural Land
- Agricultural
- Industrial
- Intense Industrial
- Community Commercial
- Regional Commercial
- Mixed Use
- Rural Residential
- Historic or Scenic Corridor
- Commercial Wind Areas
- Proposed Gateway
- Parks and Recreation

Large format map exhibits are available in the Henry County government offices.

Transportation

Communities often seek to develop safe, reliable, and affordable transportation infrastructure, although their reasons for doing so can sometimes vary. And while it can be especially important for the disabled, the young, and the elderly who are often less mobile, a community that has more transportation options is a community that offers a higher quality of life for its residents. Even private automobile owners experience unusual or unexpected conditions or events, such as when their automobile breaks down, if they become physically disabled (if only temporarily), or their income decreases.

The top counties sending workers INTO and receiving workers FROM Henry County include: Delaware, Hancock, Madison, Rush and Wayne counties

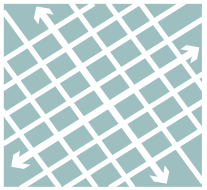
Out of the more than 19,000 people over the age of 16 in Henry County, 86.3 percent of the local labor force commutes to work in a single-occupancy vehicle. This trend is true for the entire East Central Indiana region, as well as Indiana as a whole. In Henry County, only 8.1 percent of the residents carpool to work, 3 percent of the population works from home, (and therefore does not experience a commute), and only 2 percent of the community walks or takes public transportation.

The annual commuting trends for Henry County are similar to those of Randolph, Fayette, and Madison counties. Approximately 10 percent of the implied workforce (the approximately 25,000 people who work in Henry County) live in another county or state. The implied labor force, the number of people who live in Henry County and work, is just under 30,000 people. Nearly 75 percent, or 22,300 people live AND work in Henry County. Nearly 25 percent (or more than 7,500 people) commute to a job outside of Henry County. By contrast, fewer than 2,600 people commute into Henry County to work. A greater percentage of Delaware and Wayne counties' labor force lives AND works in their respective counties. A lesser percentage of Hancock and Rush counties' labor force lives and works in their respective counties.

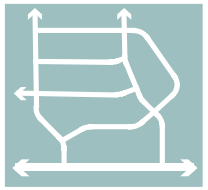
The top issues attributable to the types of commuting trends and patterns experienced in Henry County include:

- The degree to which residents purchase goods and services locally may decline, if residents who live in Henry County but work elsewhere purchase goods and services near their places of employment
- The ease of mobility (interstate access and relatively short commute time) is likely to continue to make it relatively easy to live in Henry County and travel outside of the county for employment and shopping, resulting in a reduction in the flow of money through the local economy
- Fewer consumers can sometimes lead to even fewer retail establishments, smaller selections of goods and services, and relatively higher prices for the goods and services that remain

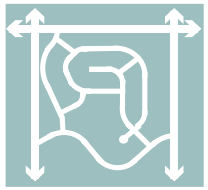
Nowhere is it more important to take a smarter and more strategic approach to transportation and provide for a smarter way of providing access to and from jobs, shops, services, education, and healthcare than in rural and small town communities. Henry County is more than likely some combination of an "exurban community" and a "production community," according to Transportation for America. A2010 study published by the organization examines the different economic and transportation approaches for improving transportation options in rural and small-town communities. An "exurban community" is one that has close proximity to urban areas for their access to jobs and retail, service, health, and educational needs. They are often characterized as having some of the highest employment levels and median household incomes. By contrast, a "production community" is often focused on a single industry, such as agriculture, manufacturing, and mining, and where the community is pretty well isolated. "Production communities" can be characterized as (recently or currently) experiencing rapid job loss, a decline in young and highly educated



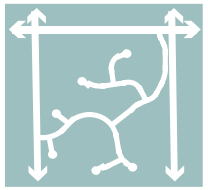
Grid



Modified Grid



Curvilinear



Conventional Cul-de-Sac

segments of the population, and a relatively large and growing aging population.

Use the following text and corresponding future land use and transportation map to weigh the pros and cons of all public investments in transportation infrastructure.

Roadways and Intersections

The county's roads are intended to accommodate vehicular and truck traffic, as well as farm equipment. Thoroughfare classifications for the roadways that traverse the county include:

- Principle arterial – I-70
- Minor arterials – US 40, US 36, US 35, SR 3, and SR 38, 5
- Major collectors – SR 109, SR 103/Muncie Pike, SR 236, S Kennard Road, Raider Road, CR 300 W, Greensboro Pike/S 275 W, Wilbur Wright Road, E 400 S
- Minor collectors – a number of the remaining county roads (refer to the future land use and transportation map)
- Municipal and County roads and streets – all other roads and streets

A roadways performance, or "level of service," is largely influenced by the design, or layout, of the community's road network. The traditional grid design was the dominate road layout of the early 1900s. Between 1930 and 1950, curvilinear loops and cul-de-sacs began to influence suburban residential development. From the 1960s through today, the conventional cul-de-sac design continues to dictate neighborhood design.

By most accounts, the grid system remains as the most efficient way to layout a community. The advantages of a grid, or modified grid street pattern, includes:

- Easily recognizable blocks
- Regularly shaped, buildable parcels that are relatively easy to redevelop
- Predictable lot shapes and sizes
- A logical and predictable hierarchical thoroughfare system
- Few, if any, impacts resulting from extending or vacating a road on the overall transportation system
- Improved access and connectivity throughout the community
- More route choices for motorists, as well as pedestrians and cyclists
- A greater number of corner lots, which are highly desirable parcels for commercial retail development
- Ease of navigation and addressing

Potential drawbacks of a grid, or modified grid street pattern, can include: monotonous streetscapes,

more lane miles, more impervious surfaces, more intersections (or "potential conflict points" in engineering terms), and the increased likelihood of a residential street being used as a through street.

Conventional residential subdivisions are discernible from older (pre-WWII) residential developments because they have long, wide curvilinear streets that terminate in cul-de-sacs. While there is almost universal acceptance that this type of street layout offers a reprieve from the unsafe traffic conditions of older, urbanized areas, this type of street system has the tendency to:

- Hinder fire and EMS response times
- Increase the amount of traffic past some residences
- Force people to drive longer distances
- Drastically (and unnecessarily) increase the distance between properties that are otherwise in close proximity to one another
- Needlessly increase in traffic on adjacent primary and secondary roadways
- Introduce pedestrian routes that are too cumbersome to serve as a viable alternative to automobile travel
- Result in more severe traffic safety incidences
- Isolate residents in their own community

In addition to facilitating movement within a community, the road network allows for the movement of goods, services and people in and out of the county. Consider that, on any given day, some commutes consists of more than just two destinations (home and work). Commuters will often make additional, non-work-related stops between work and home. Capturing the total number of miles or minutes associated with work travel in order to better understand and establish effective transportation policies becomes difficult when commuters add one or more non-work-related trips to their commute to or from work.

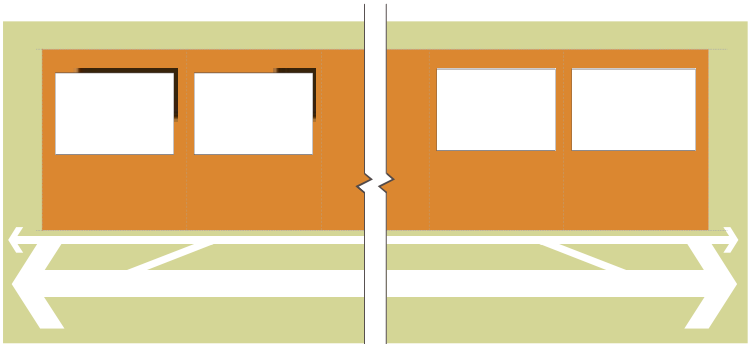
"Trip chaining" is considered to be one of the primary reasons that both the total number of miles and minutes for weekday commutes has increased in recent years. Studies have found that the farther the commute are more likely to string multiple (quick) stops (e.g., the "Starbucks effect"), or (short-term) activities as part of their trip; often for family and personal business (which are considered "fixed destinations," and sometimes for shopping which is considered a "discretionary destination." Longer stops and activities are considered "trip tours." Local transportation policies and programs have the potential to become complicated by the behaviors of workers who trip chain given that approximately 25 percent of people who live in Henry County (and work) outside of Henry County. Timing, location, time of departure, sequencing of travel, time at work, and the distribution of all of these trips across the county's transportation network will continue to impact not only travel, but also local land uses.

For the purposes of this plan, the county's trails are a system of linear parks, rather than transportation corridors capable of facilitating travel to (and from) work. Refer to "Parks, Recreation, and Open Space" on the previous pages.

Another consideration of particular importance is the need to plan for and accommodate the movement of farm equipment between fields, as well as the increased operation and maintenance costs associated with the relatively heavy use of the county's roads to move freight trucks to and from the large-scale commercial farm operations.

In order to effectively plan for and implement roadway infrastructure and interchange improvements that are necessary to support the various land use objectives stated herein, the County must:

- Propose improvements for the intersections identified on the future land use and transportation map.



Frontage Road Illustration

- Require that all transportation projects consider motorized, and non-motorized modes of transportation, as well as the use of county roads for the movement of farm implements and freight trucks, as designated truck routes are ineffective in a farming community.
- Focus on transportation solutions that don't rely solely on having to alter motorist or pedestrian behaviors but that instead focus on transportation investments that focus on improving local and regional connectivity, pedestrian and bicycle facilities, and transit service to community destinations that are facilitating community (re) development, and economic development.
- Right size the county's transportation network to improve the county's position in terms of its long-term obligation to operate and maintain the community's local roadway network.
- Alleviate any extreme application of suburban cul-de-sacs in existing neighborhood developments through the strategic placement of sidewalks and paths.
- Require that new residential and non-residential developments incorporate stub streets rather than cul-de-sacs to provide access to any future development of the adjacent property/ development and further enhance the county's transportation network.
- Require that sidewalks be designed in such a way as to provide access between development (residential and non-residential) and across natural features whether a road is present or not.
- Review, update and circulate the current set of roadway cross-sections to reflect the strong desire to maintain the rural character of the county, paying particular attention to building setbacks, driveway spacing, turning maneuvers, traffic control devices, and any accommodation of the county's greenways or trails system in addition to the roadways' capacity to handle farm equipment, truck traffic, and vehicular traffic.
- Require that all new developments adjacent to an established gridded-street system extend and make use of the application of a grid, or modified grid, street layout pattern.
- Maintain, and in most instances, increase the frequency and distribution of intersections in the County's urban areas and village centers to create a walkable environment and more resilient vehicular transportation system.
- Plan for the use of frontage roads along the County's minor arterial and major collector

roadways to allow for (relatively) uninterrupted travel on the county's minor arterial and major collector roadways while still allowing for access to (and thus the future development or redevelopment of) adjacent properties, while maintaining the visibility of the adjacent properties.

- Limit the number of curb cuts or access points along the county's remaining thoroughfares
- Require multiple access points onto one or more collector roads for all new development and redevelopment of large parcels
- Accurately account for siting of new industrial developments or parks, as well as the increasing wear and tear on county roads given that truck traffic is expected to increase as more and more local freight movement shifts away from rail.

Refer to the proposed roadways and intersection improvements illustrated on the future land use and transportation map. See also "Growth Management" on the following pages.

Transit

While it can be easy to associate public transportation as something that only large urban areas can implement and sustain, local bus (including New Castle Community Transit) intercity bus service, shuttles, paratransit (e.g., LifeStream), medical transport, and other services offer mobility options for residents of rural communities. Public transportation can be vital in rural communities where residents who lack the ability or means to drive, can become isolated. Increasing access to, and use of, public transportation in rural communities often has the added benefit of helping to grow and diversify the local economy.

In order to ensure that public transportation remains a vital part of the local transportation network, the County must:

- Make land use decisions in such a way as to concentrate, or co-locate important services like jobs, retail, schools, and healthcare in one location.
- Enable travel within and between communities within the county, as well as the adjacent communities of Muncie, Anderson, Richmond, Greenfield, and Greater Indianapolis Area.

Air

The New Castle-Henry County Municipal Airport is a general aviation, public-use airport southeast of New Castle off of E County Road 400 South. It covers an area of 32 acres and is 1,088 feet above (mean) sea level. The airport has one runway with an asphalt surface that measures 4,000 feet by 65 feet. The airport averages around 15 planes per day; most of which are for general aviation purposes. There are over 20 aircraft based at the airport.

Air travel is another avenue for commerce and often requires a higher level of intergovernmental coordination because of the jurisdictional complexities that accompany the various aviation and non-aviation facilities and activities that occur at an airport. Two of the most common concerns for any airport includes: 1) the ability to protect the airspace; and 2) the ability to expand the runway to accommodate a greater number of flights, a greater number of aircrafts, or both.

In order to continue to effectively serve the Henry County community with air transport and avoid the need to construct an entirely new airport in some other location to do the same, the County must:

- Continue to pursue funding to extend the runway to 5,000 feet.
- Update the airport master plan to illustrate where new hangers might be located in the future.

Paratransit: special, demand-responsive transport services that provide door-to-door service from any point of origin to any destination within a defined service area.

General aviation: all civil aviation operations other than scheduled air services and non-scheduled air transport operation for hire.

- Position the non-aviation land at the airport for economic development purposes.
- Consider that aviation land can serve a dual purpose when it comes to the installation of solar farms.
- Keep land around the airport free from development that is inconsistent with the future growth and development of the airport.

Rail

New Castle-Henry County is served by three rail providers. The Connersville New Castle Railroad (C&NC) offers access to both the Norfolk Southern RR and the CSX RR. The C&NC Railroad is a (Class III) short-line railroad that connects the towns of Beesons and New Castle. The total length of the C&NC railroad is just over 27 miles.

Unlike other modes of transportation, rail does not have a dedicated federal funding source. Freight rail infrastructure and operations across the county are funded almost entirely by the private sector. The maintenance, replacement, and expansion of tracks, structures, and equipment by Class I railroads is almost exclusively funded by income generated from the operation of the rail lines by private companies. Smaller, short line and regional railroads tend to be the primary recipients of state and local funding. The State of Indiana allocates less than ½ of 1 percent of revenues from the state's gross retail and use taxes to the Indiana Industrial Rail Service Fund. States are also able to use federal funds to develop revolving loan programs for the funding of state railroad projects.

In order to grow the number and types of jobs offered in Henry County or otherwise advance one or more economic development initiatives, the County must:

- Continue to leverage the presence of the county's active railroads.
- Proactively retain and enhancing reliable, cost-competitive rail service to area businesses who are dependent on rail.
- Make use of the remaining rail spurs by reserving the accessible land for industrial uses.
- Increase multi-modal mobility and access.

There are several abandoned railroads in Henry County, including Honey Creek RR, the New Castle Branch, and Conrail RR. The Honey Creek RR applied to abandon all 5.9 miles of its line between Sulphur Springs and the City of New Castle in 2004; however, the conditions of the tracks suggest that it has been quite some time since a train made the trip between the two municipalities. The New Castle Branch started out as the New Castle and Franklin Railroad in the early 1870s. It was acquired by the Pennsylvania Railroad in 1918 who abandoned part of it. The rest of the line was abandoned under the Penn Central Railroad. See also "Trails" which are categorized as linear parks, under "Parks, Recreation & Open Space" on the previous pages.

Strategy

Improve traffic conditions and enhance mobility within and around the county

Action Steps

1. Develop, adopt and implement a county-wide, long-range multi-modal transportation plan that considers the roadway and interchange improvements illustrated on the future land use and transportation map.
2. Amend all applicable development standard regulations within the county to prohibit curb cuts within so many feet (e.g. 1,000 feet) of an intersection, requiring where necessary frontage roads (for non-residential developments) and stub streets (for residential subdivisions).
3. Limit the number of instances that cul-de-sacs can be used by revising the subdivision control ordinance to include a maximum length (e.g. 500 feet) for all new cul-de-sacs.
4. Review, and if necessary revise, the county's roadway cross-sections to ensure that they accommodate, where appropriate, the following modes: vehicles, tractor trailers, farm equipment, multi-purpose trails, sidewalks in developed areas, and public transit.
5. Develop, adopt, and implement a mobility management plan to identify the family of transportation services that include a wide range of travel options, services, and modes that are matched to the demographics and needs of the residents of Henry County.
6. Create a bicycle and pedestrian connectivity plan in conjunction with (or as a part of the county's long-range transportation plan), with an emphasis on destinations, and complete with a timeline, schedule, and potential funding options by phase.
7. Require new residential development to connect to and expand upon the existing (conventional or modified) grid-street pattern of adjacent development to ensure a more efficient transportation network.
8. Establish a decision-making matrix for all future capital improvement projects that prioritizes needs over wants, infill development over greenfield development, and those things that local government can control over those things that it cannot.
9. Develop, adopt, and implement a ratio for the desired number of intersections per square mile for both non-motorized (e.g., greenways, trails, and sidewalks; on and off-street) and motorized infrastructure in the county's city and village centers.
10. Revise regulations within the local zoning and subdivision control ordinances to require larger front-yard setbacks along the county's minor arterials and major collectors to accommodate frontage roads now or in the future.
11. Develop, adopt, and adhere to a set of minimum connectivity standards, or index , to be applied uniformly across all city and village centers, using the following minimum standards as a starting point:
12. Municipal Streets – characterized by lower speed limits and low carrying capacity. They are often limited in their ability to move traffic longer distances. Local roads are distinguishable from others roads in that their primary purpose is to provide direct access to private properties.
13. County Roads – characterized by faster speeds and their ability to carry vehicular traffic and heavy agricultural loads longer distances, where the average distance between intersections is one-mile.
14. Collector Roads – characterized by a low to moderate carrying capacity and moderate speeds, as well as their ability to bring all developed areas within a reasonable distance to an arterial roadway. They are distinguishable from other roads in their ability to effectively distribute traffic for shorter distances. Collector roads are particularly important in terms of their ability to move traffic between local streets and arterial roadways. They often provide the best access to county seats, to larger cities and towns not directly served by an arterial roadway, and to other traffic generators such as consolidated schools, shipping points, county parks, etc.
15. Arterial Roads – characterized by their relatively equally spaced intervals so that all land within the community is within a reasonable distance of an arterial roadway, their relatively higher design speeds, and few interferences so as to assist with moving people greater distances. They form the rural road network and are distinguished from other road types in that their primary purpose is to connect cities and larger towns and other major traffic generators such as a large recreational area.

Municipal Street Considerations
1. *Minimum distance of 300-400 feet between all local streets*
2. *Maximum distance of 500 feet between intersections*
3. *Maximum block size of 5-12 acres*
4. *Maximum cul-de-sac length between 400 and 500 feet*

Collector Road Considerations
1. *Maximum distance of 1,000 feet between intersections*
2. *Incorporation of bicycle/pedestrian crossing(s) every 350 feet, using design features, such as curb extensions or pedestrian refuge islands, to reduce the crossing to a maximum distance of 36 feet*